



FINAL PROJECT (RC14-1501)

# APPLICATION OF DIRECT DISPLACEMENT BASED DESIGN FOR DUAL SYSTEM BUILDING

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Faculty of Civil Engineering and Planning  
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Surabaya 2015



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# **APPLICATION OF DIRECT DISPLACEMENT BASED DESIGN FOR DUAL SYSTEM BUILDING**

## **FINAL PROJECT**

Submitted in partial fulfillment of the  
requirements for the *Sarjana Teknik* degree

On

Structural Engineering field of study  
Program Study *S-1* Department of Civil  
Engineering

Faculty of Civil Engineering and Planning  
Institut Teknologi Sepuluh Nopember  
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# **PENGAPLIKASIAN METODE DIRECT DISPLACEMENT BASED DESIGN UNTUK BANGUNAN SISTEM GANDA**

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## **ABSTRAK**

Sejalan dengan waktu, bangunan-bangunan terpaksa untuk dibangun ke atas karena keterbatasan luas lahan dan populasi masyarakat yang masih berkembang. Dengan penambahan bangunan yang menjadi semakin tinggi dari sebelumnya, adapun beberapa kelemahan dengan peraturan pembangunan sekarang untuk mewadahi perkembangan ini. Bangunan yang mengacu pada peraturan terkini dipandang terlalu konservatif dan desain yang lebih bagus bisa di rancang apabila ada metode desain yang baru.

Maka dari itu, metode desain baru yang beda dari metode yang digunakan di peraturan terkini harus dikembangkan. *Direct Displacement Based Design* (DDBD) adalah sebuah metode desain yang menunjukan keunggulan dimana desain tersebut mengacu kepada defleksi. Karena kebanyakan kerusakan pada bangunan adalah akibat defleksi, maka bangunan yang didesain dengan metode *Direct Displacement Based Design* tersebut akan lebih efisien.

Metode yang baru dikembangkan ini akan diaplikasikan pada tugas akhir ini untuk mengetahui apabila metode ini akan memberikan desain bangunan yang lebih efisien. Objek dari tugas akhir ini adalah sebuah apartmen dengan dinding geser yang mempunyai 27 lantai. Tulangan untuk elemen – elemen primer dihitung mengacu pada *base shear* yang telah terhitung.

Hasil dari tugas akhir ini adalah nilai *base shear* untuk metode *Direct Displacement Based Design* lebih kecil daripada metode *Force Based Design*, dimana *base shear* dari *Direct Displacement*



*Based Design* adalah 3825840 kg, dan hasil dari *Force Based Design* adalah 4731599.688 kg.

Karena nilai *base shear* yang lebih kecil ini, tulangan yang dibutuhkan oleh balok dan kolom juga lebih kecil. Penulangan DDBD rata-rata 12% lebih kecil daripada *Force Based Design* untuk tulangan memanjang dan 7% untuk tulangan sengkang. Perbedaan untuk tulangan kolom terlalu kecil maka bisa dilihat tidak ada perbedaan antara kedua metode desain. Sama dengan tulangan kolom, tulangan untuk dinding geser juga tidak ada perbedaan untuk tulangan memanjang untuk kedua metode. Perbedaan untuk tulangan transversal dinding geser rata-rata 12.8% lebih kecil untuk DDBD daripada *Strength Based Design*.

**Kata Kunci : Defleksi, Direct Displacement Based Design Method, Strength Based Design, Effisien.**

# **APPLICATION OF DIRECT DISPLACEMENT BASED DESIGN FOR DUAL SYSTEM BUILDING**

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## **ABSTRACT**

*Through the development of time, buildings are required to be built upwards due to land restrictions and the ever growing human population. With more and more building becoming taller and higher than ever before, there are a few weaknesses with current building codes to comply with these changes. The buildings which follow the current building codes are seen to be too conservative and better designs could be achieved if there was a new method of design.*

*Therefore a new method of design which is different from the method current building codes use needed to be developed. Direct Displacement Based Design (DDBD) is a design method which shows more promise basing its results on deflection. And since most damage on buildings is due to this deflection, buildings created using Direct Displacement Based Design are said to be more efficient.*

*Ergo, this newly developed method of design was applied in this study to find out if the method creates a much more efficient building. The object of this study is an apartment building with shear wall and comprises of 27 floors. Reinforcement of the primary elements was calculated, as well as the placement of plastic hinges due to the newly calculated base shear value.*

*Based on the output of this study, the value of base shear for Direct Displacement Based Design is lower than that of Force Based design, where the Base Shear of design using Direct Displacement based design is 3825840 kg, whilst the result for Strength based design is 4731599.688 kg.*

*Due to this lower base shear value, the reinforcement needed for beams and columns are also lower in number. It is seen that DDBD reinforcement averages 12% less than that of Force Based design on the longitudinal reinforcements and 7% on transversal. The difference in Column reinforcement however is miniscule to the point where there are no differences between the two methods of design. Very much like the column, there is no difference in longitudinal shearwall reinforcement for both design methods. The difference between the transversal reinforcement however averages 12.8% less for DDBD compared to that of the Strength Based Design.*

**Key Words : *Deflection , Direct Displacement Based Method ,Force Based Design, Efficient***

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I understand that there are still a lot missing from this final project, therefore any critique and advice is always welcomed. Hopefully this final project is useful.

Surabaya, June 2015

Writer

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# **CHAPTER 1**

## **BACKGROUD**

### **1.1 INTRODUCTION**

Population of the world continues to soar bringing with it problems relating to the ever increasing number of people needing shelter and homes. With the restriction of land in this planet, more and more cities are forced to build upwards to accommodate the increasing number of residents. Many cities around the world have chosen the solution of building upwards, including cities in Indonesia. These taller structures although helpful in tackling the new urban accommodation problems, have problems of its own. When deigning these tall structures there are a few critical aspects that immediately need to be dealt with. The most imminent is its exposure to earthquakes and the damage it creates.

Studies regarding the impact of earthquakes on structures have long been carries out (Priestley et al., 2007). Many developments of structural designs have also been made as a result of it. After looking at seismic data of the biggest earthquakes recorded in history, officials began to create design codes to anticipate such strong seismic activity. Many of these codes are based on force and are called “Force Based Design”.

Although “Force Based Design” has been proven to be sufficient on handling seismic loads, there is however another method of structural design which proves to give results which are rational and efficient in design which is called “Performance Based Design”, which was then further developed to be called “Direct Displacement Based Design” (Priestley, 1993).

Although it may be okay to still be using the conventional “Force Based Design” and following the current building codes (SNI), there may be however, a little flaw with applying this method for some structures. Take the city of



Surabaya for example. The city of Surabaya is stated to be in the low earthquake zone, yet because of the type of soils that's underneath, the structures, according to SNI 1726 – 2012, becomes a type D structure. Type D structures must be fully ductile. Designing a building to be fully ductile could be costly, but when it is designed using “Direct Displacement Based Design”, this fully ductile aspect can be sidelined and yet still create a safe structure which fulfills the design criteria for plastic rotation (A.K. Chopra and R.K. Goel., 2001).

Unlike “Force Based Design”, “Direct Displacement Based Design” focuses on the displacement limit state. Many instances of seismic events show that structural damage occurs due to the strain of the members which is related to displacement (M. D’Aniello, 2007). By using “Force Based Design”, the design of the structure becomes “over designed” when it comes to handling the deflections created by earthquakes, whilst using “Direct Displacement Based Design”, the deflection of the structure becomes the input of the design process from the beginning (Priestley, 2007).

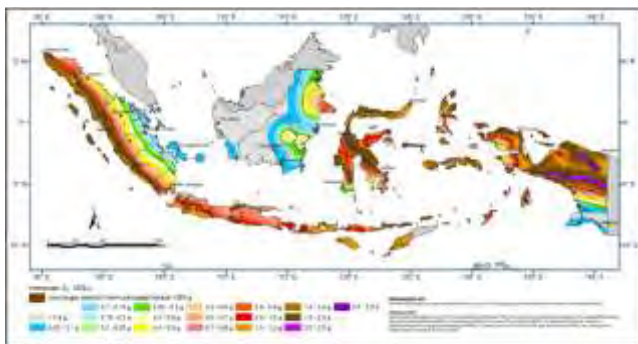


Figure 1.1 Indonesia Earthquake Zone Map

Source : SNI 1726 – 2012

With that, this study is carried out to see the difference in design and comparing the design of the Force Based with

Direct Displacement Based design, and thus will be drawing a final conclusion based on the efficiency of both designs.

## 1.2 PROBLEM IDENTIFICATION

Main Problem – The problem which will be looked at for this topic is the design of the current structures compared with design using Direct Displacement Based design.

Detail of Problem –

- What is the value of base shear using Direct Displacement Based design compared to using Strength Based design?
- How much reinforcement is needed in beams, columns and shearwall when designed using Direct Displacement Based design?
- How much reinforcement is needed in beams, columns and shearwall when designed using Direct Force Based design?

## 1.3 OBJECTIVE OF STUDY

The main aim of this study is to compare the results between the two different methods of design by finding out:

- The value of base shear using Direct Displacement Based design.
- The amount of reinforcement needed in beams, columns and shearwall designed using Direct Displacement Based design.
- The amount of reinforcement needed in beams, columns and shearwall designed using Direct Force Based Design.

## 1.4 SCOPE OF STUDY

- Not calculating the foundation of the structure
- Not drawing the full structure design created using Direct Displacement Based design and Force Based Design

- Only comparing elements of the primary structure

### 1.5 ADVANTAGE

There are a few advantages of carrying out this comparison:

1. Gives an alternative method of design to create more efficient structures
2. Preparing for the future development of this method of design

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **1.1 THE SPARK OF PERFORMANCE BASED DESIGN**

Since the year 1984 the issue of seismic damage to existing buildings has been recognised, so began the movement of creating guidelines to try and rehabilitate the old established buildings to fit the current building codes and regulations (FEMA 273). In August 1991, the National Institute of Building Sciences (NIBS) created an agreement with FEMA for a seven-year program to create guidelines for seismic rehabilitation of existing buildings. Due to the agreement, the Building Seismic Safety Council (BSSC) became the program managers, whilst the American Society of Civil Engineers (ASCE) and the Applied Technology Council (ATC) acts as subcontractors (FEMA 273). The actions taken by FEMA in creating these criteria guidelines of construction, partnered with ASCE and ATC, were pushed by the urgent need for new design approach due to the demand following a series of earthquakes in California (Hamburger and Hooper, 2011).

Structural rehabilitation analysis is constantly performed to see if certain existing structure is in need of renovation. Structural damage caused by seismic activity has become a main concern for many governing bodies (Washington State Department of Transportation analysis report, 2007 and Department of Transportation Research Division research report, 2009). The structural rehabilitation analysis brings back results which show the current “performance” of a structure.

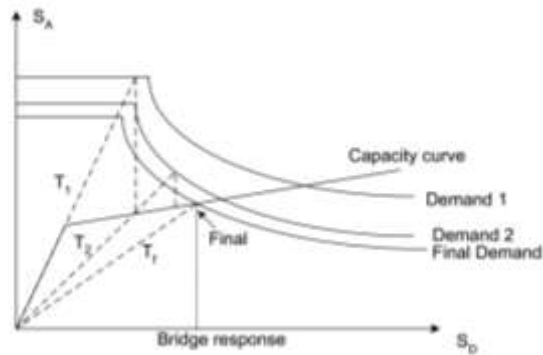


Figure 2.1 Example of result for Structural Performance  
 Source : Utah Department of Transportation Research  
 Division research report 2009

By looking at figure 2.1, it can be seen that the “performance” of the structure (labeled as “final” on the image), is where the capacity curve crosses with its demand curve. The values of this “performance” become the limit of a structure.

A building’s performance level is obtained by combining structural and non structural performance levels. Stated in FEMA 273’s guidelines, there are classification of building performance levels and range, they are:

- S-1 : Immediate Occupancy Performance Level
- S-2 : Damage Control Performance Range
- S-3 : Life Safety Performance Level
- S-4 : Limited Safety Performance Range
- S-5 : Collapse Prevention Performance Level

Where S-1 is the higher performance with less loss, and S-5 as the lower performance and more loss.

Analysis of the structure is to determine the distribution of forces and deformations of the structure. There are four analytical procedure which can then be



used to obtain performance levels : Linear static, Linear Dynamic, Nonlinear Static, and Nonlinear Dynamic.

## 2.2 ELEMENT PERFORMANCE MODELLING

Figure 2.2 shows the three types of curves which is the result of the analytical procedure of component behavior which may be modeled in structures. Type 1 curve shows a typical ductile behavior. Point 0 to 1 shows the elastic range, followed by a plastic range (points 1 to 3) that may include strain hardening or softening (points 1 to 2), and ending with a strength-degraded range (points 2 to 3) where the residual force that can be resisted is less than the peak strength (point 2), but is still substantial. Acceptance criteria of this type of behavior for primary elements lie in between the elastic or plastic ranges (points 1 and 2); whilst for secondary elements can be between any of the ranges.

Type 2 curve shows another representative of semi-ductile behavior, though unlike type 1, there is a rapid and complete loss of strength after point 2. Acceptance criteria of this type of behavior for both primary and secondary element lie in the elastic or plastic ranges (points 1 to 2).

Type 3 curve represents a brittle or non ductile behavior. It is characterized with an elastic range (points 0 to 1) followed by a rapid and complete loss of strength. Acceptance criteria of this type of behavior for primary and secondary components are within the elastic range (points 0 to 1).

The three curves above shows types of behavior that may happen to components of structures, where behavior of type 1 curve is more desirable than the other two due to the fact that there is residual force, whilst the other two shows a rapid loss of strength.

From the results of analysis, a conclusion can be drawn about what the current state of a structure is and how to follow through if it needs rehabilitation. With FEMA's

guidelines, ASCE decided to create their own design code. ASCE 41-06 is a design code specializes in rehabilitation procedures, but many engineers believe that ASCE 41-06 gives design results that are too conservative, and therefore not economic enough compared to using other design approaches (Naeim et al, 2012).

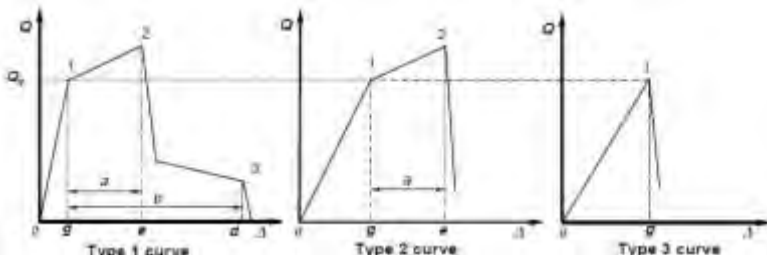


Figure 2.2 General Component Behaviour Curves (Nonlinear Static and Nonlinear Dynamic analysis)

Source : FEMA 273

From the results of analysis, a conclusion can be drawn about what the current state of a structure is and how to follow through if it needs rehabilitation. With FEMA's guidelines, ASCE decided to create their own design code. ASCE 41-06 is a design code specializes in rehabilitation procedures, but many engineers believe that ASCE 41-06 gives design results that are too conservative, and therefore not economic enough compared to using other design approaches (Naeim et al, 2012).

Performance Based Design became a design approach claimed to be better and thus research into using "performance" output as the input of structural designs began (Hamburger and Hooper, 2011). With that, officials started to try incorporate Performance-based design into the current building codes to satisfy the necessary requirements for new and old structures (Greenwood, 2007).

## 2.3 DEVELOPMENT OVER TIME

There have been many researches and development on the Performance based method. The first has to be from Gulkan and Sozen, 1974 who introduced a deformation based procedure for reinforced concrete frames which is assumed as a Single Degree of Freedom structure. Sozen then partnered with Shibata in 1977 to improve on his previous work, developing it into a Multi Degree of Freedom structure (Harris, 2006).

The most recent of Performance Based Design developments are with the works of Priestley, Kowalsky, Park and Pauley.

Priestley was the first to develop the concept of Direct Displacement Based design in 1993 where the initial stiffness, strength and period are the end product of the design (Harris, 2006). He then went on to expand his concept to applying it for multi storey concrete building frames (Priestley and Kowalsky, 2000). In between then and now, there were a few other developments of the method and its purpose.

The Direct Displacement Based Design (DDBD) procedure was first developed by Kowalsky et al in 1994 and 1995 for an SDOF concrete bridge pier and was followed by multi-span concrete bridges developed by multiple researchers including Priestley, Kingsley and Calvi. It was only after that when the development of DDBD is applied to concrete building frames (Harris, 2006).

## 2.4 DIRECT DISPLACEMENT BASED DESIGN

First proposed by Priestley in 1993, Direct Displacement based design is the current accepted performance based method for seismic design. In his paper, where he identified problems with current design and how it conflicts with reality, Priestley strongly recommended to basing design

criteria on displacement rather than on acceleration spectra (Priestley, 1993).

Since then DDBD has been implemented on multiple material and structural types, for example the application of DDBD on Reinforced Concrete structural system (Malekpour & Dashti, 2013), DDBD on Multistory Woodframe Structures (Pang & Rosowsky, 2010), and also Low Rise Steel Frames (Harris, 2006).

A study carried out by Malekpour and Dashti (2013) was to investigate the direct displacement based design (DDBD) approach for different types of reinforced concrete structural systems including single moment resisting, dual wall frame and dual steel braced systems. They concluded that the method can be regarded as an appropriate alternative to current Force Based Seismic Design of structures, stating that using DDBD the maximum inter-story drift was satisfactory and that the methodology is able to be used to design structures with a more controlled residual behavior.

Pang & Rosowsky (2010) started a project on the use of DDBD for Multistory Woodframe Structures after looking at the number of woodframe structures built in the United States and the value of property losses created from earthquake damage. Once again the inter-story drift is praised stating that the inter-story drift is the most relevant design parameter to be used in woodframe due to the fact that drift has been found to be the key to predicting damage in wood structures. Information about the inter-story drift distribution is revealed during the DDBD process allowing the designer to optimize the structure for a target drift.

The basic design process of Direct Displacement Based Design is as follows. Referring to Figure 2.2 which shows the procedure of DDBD, we are first presented by a single degree of freedom (SDOF) structure model where the original structure will be substituted to an equivalent SDOF system. This SDOF equivalent system is represented by

equivalent viscous damping, effective mass ( $m_e$ ) and height (Figure 2.2a) and also secant stiffness ( $K_e$ ) at maximum displacement  $\Delta_d$  (Figure 2.2b).

The ductility of the design is assumed and chosen by the designer based on the ultimate design displacement and yield displacement of the real structure, and by using the ductility-damping diagram, a design damping is selected (Figure 2.2c). The design period is then obtained using the diagram on Figure 2.2d with the value of previously planned displacement and the specified equivalent viscous damping (Priestley 2007).

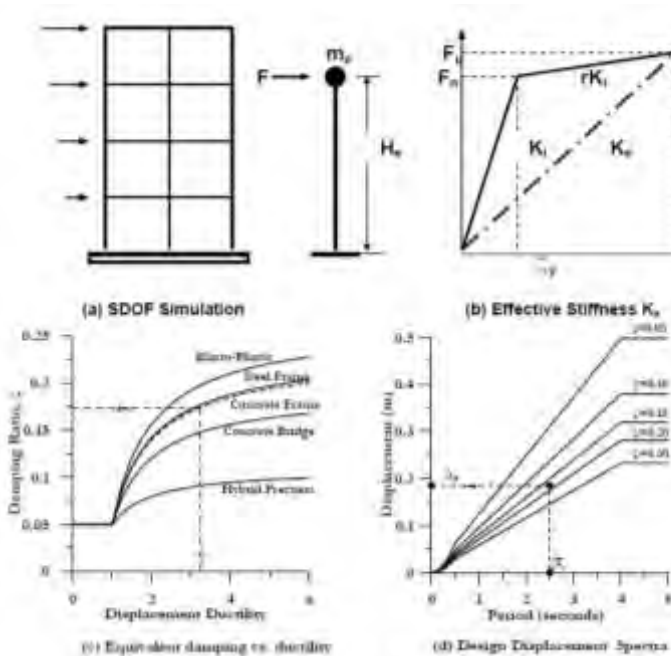


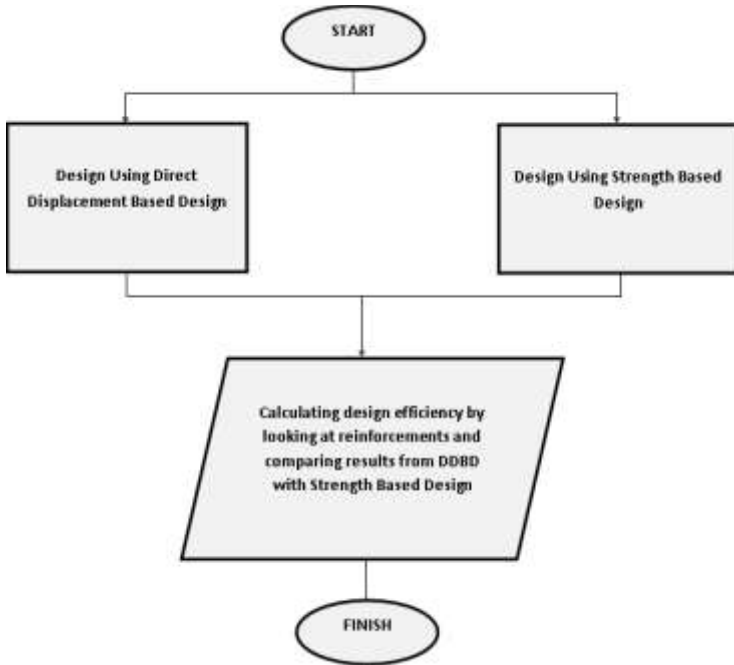
Figure 2.3 SDOF Representation of DDBD

Source : Calvi, Priestley & Kowalsky, 2008

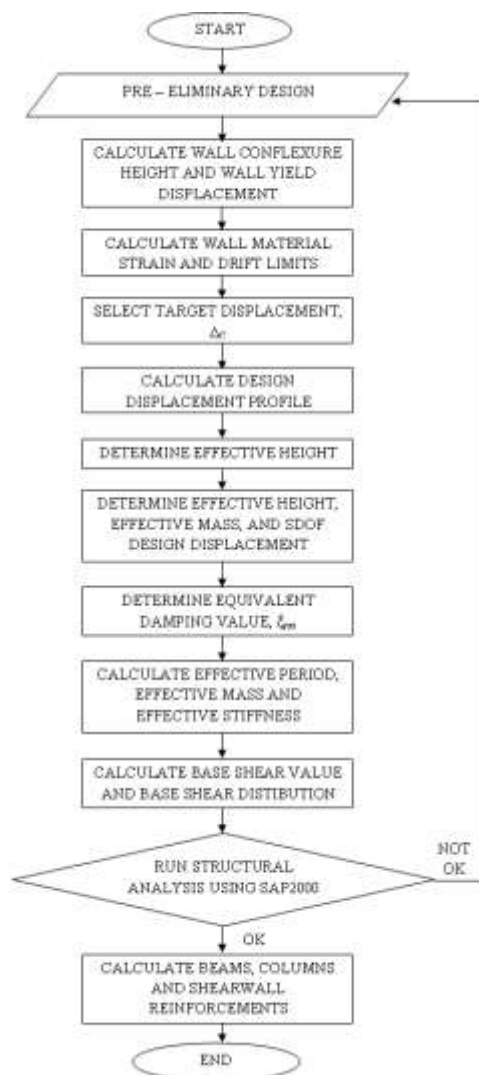
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## CHAPTER 3 METHODOLOGY

### 3.1 FLOWCHART OF METHOD COMPARISON

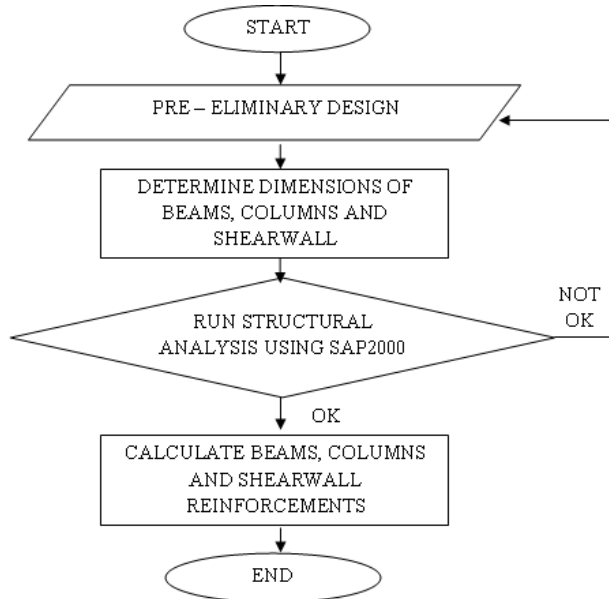


### 3.2 FLOWCHART OF DIRECT DISPLACEMENT BASED DESIGN





### 3.3 FLOWCHART OF STRENGTH BASED DESIGN METHOD



### 3.4 COMPARISON FLOWCHART BREAKDOWN

1. Obtain sectional dimension and the number of reinforcement needed using Direct Displacement Based Design method.
2. Obtain sectional dimensions and the number of reinforcement needed using Strength Based Design method.
3. Calculating the level of efficiency of using Performance Based Design method and comparing to using Strength Based Design method.

### 3.5 DISPLACEMENT BASED DESIGN FLOWCHART BREAKDOWN

#### 1. Pre-eliminary Design

Dimensions of beams, columns, and plates are according to the Strength Based Design dimension.

#### 2. Calculate Wall Conflexure Height and Wall Yield Displacement

Wall Conflexure Height:

$$M_{w,I} = M_{i+1} + V_{i+1} (H_{i+1} - H_i) \quad (1)$$

Wall Yield Displacement:

$$\text{For } H_i < M_{w,I}, \Delta_{yi} = \phi_y ( \text{---} \text{---} ) \quad (2a)$$

$$\text{For } H_i > M_{w,I}, \Delta_{yi} = \phi_y ( \text{---} \text{---} ) \quad (2b)$$

3. Determine the target displacement of structure,  $\Delta_c$
4. Calculating design displacement profile
5. Calculating Effective mass, Effective height, and ductility of structure

##### i. Ductility of structure:

$$\text{---} \quad (3)$$

##### ii. Effective mass

$$\text{---} \quad (4)$$

##### iii. Effective height

$$\text{---} \quad (5)$$

#### 6. Determine Equivalent System Damping

$$\xi_{sys} = \text{---} \quad (6)$$

#### 7. Plot Displacement Spectra at damping level and obtain effective period ( $T_{eff}$ )

Spectral reduction factor for specific value of damping is;

$$R_{\xi_{sys}} = \text{---} \quad (7)$$

This makes effective period become;

$$T_{\text{eff}} = 5 \times 0.476 / R_{\text{sys}} \quad (8)$$

8. Determine Effective Stiffness and design Base Shear

Effective Stiffness ;

$$K_{\text{eff}} = 4\pi^2 \frac{W}{T_{\text{eff}}^2} \quad (9)$$

Base Shear;

$$V_b = K_e \Delta \quad (10)$$

Distribution of Base Shear along the Height

$$\frac{V_b}{H} \quad (11)$$

9. Run SAP2000 Analysis with new Base Shear Value

The value of base shear obtained using Direct Displacement Based Design is compared to the value obtained using the Force Based Design.

Modify scale factor of response spectrum accordingly.

10. Calculate Reinforcement of Beams and Columns

To make sure that the structure still complies with current building codes and standards, the calculation of reinforcement follows the same procedure as the Force Based Design which is stated in 3.6.3

### 3.6 STRENGTH BASED DESIGN FLOWCHART BREAKDOWN

1. Pre – Eliminary Design

Determine Dimensions of beams, columns and shearwall

2. Run SAP2000 analysis

Check if beams and columns dimensions qualified

Loading and Loading Combination

- a. Dead Load

Dead load is the total load of the entire construction with the load of each building material in reference to PPIUG 1983 and PBI 1971

- b. Live Load

Live Load is the superimposed load on structural components by the use and occupancy of the building such as rain load, human, and other items which has been appointed in Chapter 3 of PPIUG 1983.

c. Earthquake Load

Earthquake load which is designed by Performance Based Design based on a building's stiffness and deflection of structure.

d. Loading Combination

All load which occurs is multiplied by each of its own load factors after then a load combination is carried out which refers to SNI 1726-2012 ps. 4.2.2, so that the structure and the component fulfills the safety and feasibility requirement. The use of combination in calculation is based by SNI 1726-2012 ps. 11.2

- $U = 1,4 D$  (12a)
- $U = 1,2 D + 1,6 L + 0,5 (A \text{ or } R)$
- $U = 1,2 D + 1 L \pm 1,0$  (12c)
- $U = 0,9 D \pm 1,0 E$  (12d)

Where :

A = Roof Load

R = Rain Load

U = Ultimate Load

D = Dead Load

L = Live Load

E = Earthquake Load

### 3. Calculate Reinforcement of Primary beams and columns

a. Beam

Reinforcement of beams is divided into two which are longitudinal and transversal reinforcement. Longitudinal Reinforcement is calculated using a few conditions and requirements which are stated in SNI 2847-2013. Probable moment may occur for transversal reinforcement which is caused by earthquake from left and right direction. Transversal reinforcement is also divided into two; transversal reinforcement in the plastic hinge area and those out of the plastic hinge area. It is also stated in SNI 2847-2013

Formula used in beam longitudinal reinforcement calculation:

- $R_n = \left( \frac{M_n}{b \cdot d^2} \right)$  (13a)

- $\rho_p = \frac{1}{m} \left( 1 - \sqrt{1 - \frac{2m \times R_n}{F_y}} \right)$  (13b)

- $m = \frac{f_y}{0,8x f'_c}$   
(13c)

- $\rho_p > \rho_{\min}$  (13d)

- $A_{s_p} = \rho \cdot b \cdot d$  (13e)

Where :

b = Width of beam per meter

d = Height of beam

$\rho$  = Reinforcement ratio

$A_s$  = Required reinforcement area

$f_y$  = Steel grade (MPa)

$f'_c$  = Concrete grade (MPa)

b. Column

Reinforcement of columns is divided into two which are Longitudinal and Transversal Reinforcements.

Longitudinal Reinforcement is calculated using a few conditions and requirements which are stated in SNI 2847-2013.

Transversal reinforcement is also divided into two; transversal reinforcement in the plastic hinge area and those out of the plastic hinge area. It is also stated in SNI 2847-2013.

### 3.7 OBJECT DESCRIPTION

Name of building: Apartment Taman Melati Mulyorejo

Location of Building: City of Surabaya, Indonesia

Height of building: 86.8 m

Number of floors: 27 floors

## CHAPTER 4

### DIRECT DISPLACEMENT BASED DESIGN

#### 4.1 PRE-ELIMINARY DESIGN

Pre-eliminary design data of structure is as follows:

- Function : Apartment
  - Structure Type : Dual System
  - R : 8
- Dimensions : Beams = 40/60 cm  
 Column = Varies per floor  
 Floor slab thickness = 13 cm  
 Shearwall thickness = 30 cm
- Material Characteristics :
  - Concrete ( $f'_c$ )
    - Beams = 25 MPa
    - Floor Slabs = 25 Mpa
    - Columns = 50 Mpa
    - Shearwall = 50 Mpa
  - Steel ( $f_y$ )
    - Longitudinal = 390 Mpa
    - Shear = 390 Mpa
- Earthquake Area : Indonesia Earthquake zone 3
- Structure Height : 86.8 m

Table 4.1 Column Dimensions

| DATA COLUMNS | 1st - 5th Floor |      | 6th - 10th Floor |      | 11th - 15th Floor |     | 15th - 20th Floor |     | 20th - 28th Floor |     |
|--------------|-----------------|------|------------------|------|-------------------|-----|-------------------|-----|-------------------|-----|
| NAME         | DIMENSION       |      | DIMENSION        |      | DIMENSION         |     | DIMENSION         |     | DIMENSION         |     |
|              | W               | L    | W                | L    | W                 | L   | W                 | L   | W                 | L   |
| k1           | 800             | 800  | 900              | 900  | 900               | 900 | 700               | 700 | 500               | 500 |
| k2           | 800             | 800  | 900              | 900  | 500               | 900 | 700               | 700 | 500               | 500 |
| k3           | 1000            | 1000 | 1000             | 1000 | 800               | 800 | 700               | 700 | 500               | 500 |
| k4           | 1000            | 1000 | 1000             | 1000 | 800               | 800 | 700               | 700 | 500               | 500 |
| k5           | 900             | 900  | 900              | 900  | 700               | 700 | 700               | 700 | 500               | 500 |
| k6           | 900             | 900  | 900              | 900  | 700               | 700 | 700               | 700 | 500               | 500 |
| k7           | 1000            | 1000 | 1000             | 1000 | 800               | 800 | 700               | 700 | 500               | 500 |
| k8           | 1000            | 1000 | 1000             | 1000 | 800               | 800 | 700               | 700 | 500               | 500 |
| k9           | 1000            | 1000 | 1000             | 1000 | 800               | 800 | 700               | 700 | 500               | 500 |
| k11          | 500             | 500  | 500              | 500  | 500               | 500 | 500               | 500 | 500               | 500 |

#### 4.2 DEAD LOAD AND LIVE LOAD

Based upon the loading codes of Indonesia, “Peraturan Pembebanan Indonesia Untuk Gedung” (PPIUG 1983), the loads are stated as shown below:

- Dead Load =  $\gamma_{\text{reinforced concrete}} = 2400 \text{ kg/m}^3$   
     Plafond = 18  $\text{kg/m}^2$   
     Tile, cement = 45  $\text{kg/m}^2$
- Live Load = Roof Load = 100  $\text{kg/m}^2$   
     Floor = 250  $\text{kg/m}^2$

Assumption of floor slab is as follows:

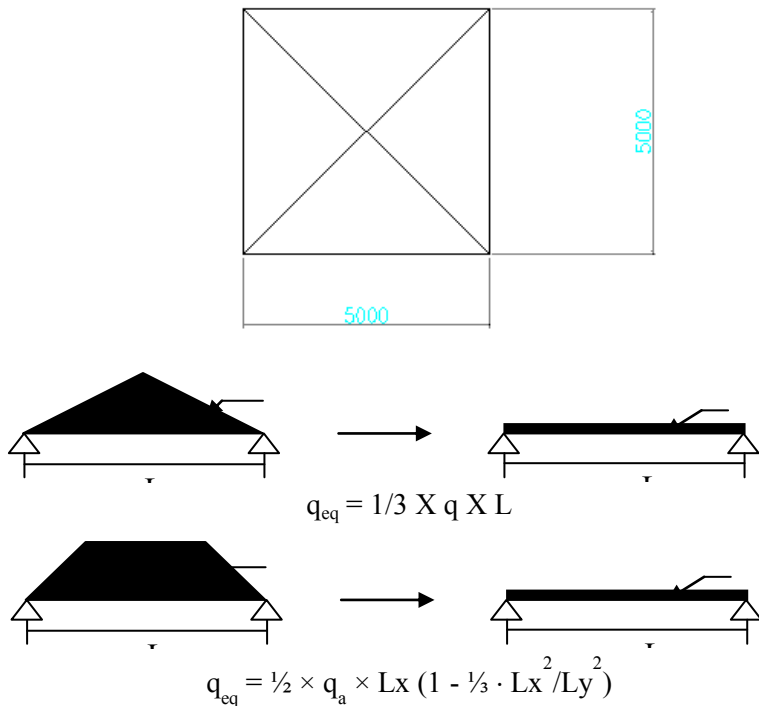


Figure 4.1 Assumption of Floor Slabs



### 4.3 DIRECT DISPLACEMENT BASED DESIGN METHOD

#### 4.3.1 Design Choices

Based on the design choice of dual system which states that a dual system structure is a structure which consists of *frame* and *shear wall* with the assumption that lateral loads are distributed to the *shear wall* and *frame*. Minimum 25% of base shear is distributed to the frame, therefore  $\beta_F = 0.25$ .

#### 4.3.2 Wall Conflexure Height

To calculate the wall conflexure height, it is stated in Chapter 3 eq. (1) that;

$$M_{w,I} = M_{i+1} + V_{i+1} (H_{i+1} - H_i)$$

Whilst,  $M_i$  is given as  $M_{OTM,I}$  rel. which is similar to the formula for the  $M_{w,I}$  given above.

$V_{Ti}$  used for calculating  $M_{OTM,I}$  is the total shear force, where the shear force ( $F_i$ ) =  $m_i H_i / \sum m_i H_i$

By looking at table 4.2, the wall conflexure point is between levels 25 and 26. Interpolating linearly,

$$H_{CF} = 77.5 + 3.1 \times 0.344 / 0.577 = 79.25 \text{ m}$$

#### 4.3.3 Wall Yield Displacement

The expected yield strength of the reinforcing steel is  $f_{ye} = 1.1 f_y = 429 \text{ MPa}$ . Hence  $\epsilon_y = 0.00204$ .

The yield curvature for the wall is estimated as  $\phi_y = 1.5 \epsilon_y / l_w = 1.5 \times 0.00224 / 4.2 = 0.0007286 / \text{m}$

The vertical profile of yield depends on the conflexure height which was previously calculated. Going by eq. (2a and 2b) the vertical profile of yield is;

$$\text{For } H_i < 79.25 \text{ m, } \Delta_{yi} = \phi_y ( \text{---} \quad \text{---} )$$

$$\text{For } H_i > 79.25 \text{ m, } \Delta_{yi} = \phi_y ( \text{---} \quad \text{---} )$$

The results of vertical yield can be seen on table 4.3.

Table 4.2 Wall Conflexure Height

| 1     | 2          | 3            | 4           | 5            | 6           | 7              | 8             | 9             | 10        |
|-------|------------|--------------|-------------|--------------|-------------|----------------|---------------|---------------|-----------|
| Layer | Height (m) | Mass (kg)    | Temp        | T1 (m/s)     | T2 (m/s)    | Velocity (m/s) | Pressure (Pa) | Pressure (Pa) | Mass (kg) |
| 18    | 86.8       | 1125989.146  | 10729684.6  | 0.058576614  | 0.053576614 | 0              | 0.25          | -0.19641      | 0         |
| 17    | 83.7       | 11314126.085 | 115269754.6 | 0.0678611354 | 0.121177985 | 0.166877985    | 0.25          | -0.12862      | -0.86891  |
| 16    | 80.6       | 11016126.085 | 113126792.8 | 0.0689579    | 0.186275085 | 0.541739294    | 0.25          | -0.09372      | -0.23576  |
| 15    | 77.5       | 11316126.089 | 115269751.9 | 0.062593848  | 0.248888414 | 1.119193464    | 0.25          | -0.00113      | 0.344193  |
| 14    | 74.4       | 11016126.085 | 113126792.8 | 0.060050082  | 0.328833904 | 1.350888846    | 0.25          | 0.02880       | 1.115689  |
| 13    | 71.3       | 11316126.089 | 115229790.1 | 0.057586218  | 0.386545844 | 1.848848513    | 0.25          | 0.116546      | 2.673469  |
| 12    | 68.2       | 11316126.089 | 113126792.8 | 0.055082385  | 0.471678629 | 1.986775213    | 0.25          | 0.171638      | 3.109925  |
| 11    | 65.1       | 11516126.089 | 115269754.6 | 0.052578811  | 0.47410726  | 1.291803368    | 0.25          | 0.234237      | 4.338801  |
| 10    | 62         | 11316126.089 | 113126792.8 | 0.050078077  | 0.534282313 | 0.261885888    | 0.25          | 0.274623      | 5.100846  |
| 9     | 58.9       | 11316126.089 | 9518928.65  | 0.047571323  | 0.573452886 | 0.387121111    | 0.25          | 0.321834      | 7.412121  |
| 8     | 55.8       | 11316126.089 | 9518928.65  | 0.045067589  | 0.618921229 | 0.42888746     | 0.25          | 0.369611      | 9.184417  |
| 7     | 52.7       | 11316126.089 | 9518928.65  | 0.042563815  | 0.659455044 | 0.471323217    | 0.25          | 0.418485      | 11.29732  |
| 6     | 49.6       | 11516126.089 | 9015854     | 0.040060061  | 0.699245106 | 0.51167268     | 0.25          | 0.468545      | 13.34173  |
| 5     | 46.5       | 11316126.089 | 7515449.13  | 0.037558579  | 0.73194685  | 0.551851675    | 0.25          | 0.518709      | 15.51832  |
| 4     | 43.4       | 11516126.089 | 70149881.86 | 0.035058807  | 0.772186291 | 0.59354125     | 0.25          | 0.568718      | 17.79534  |
| 3     | 40.3       | 11316126.089 | 8513354.59  | 0.032551815  | 0.804711327 | 0.63608819     | 0.25          | 0.618757      | 20.18104  |
| 2     | 37.2       | 11516126.089 | 60115127.11 | 0.030047665  | 0.83475955  | 0.674584313    | 0.25          | 0.668785      | 22.68368  |
| 1     | 34.1       | 11316126.089 | 5114700.04  | 0.027541891  | 0.861230321 | 0.714639899    | 0.25          | 0.718703      | 25.3791   |
| 0     | 31         | 11516126.089 | 3009999.75  | 0.025037938  | 0.88734082  | 0.754594085    | 0.25          | 0.768741      | 27.94494  |
| 9     | 27.9       | 11316126.089 | 4309991.748 | 0.022533785  | 0.918874884 | 0.794728887    | 0.25          | 0.818783      | 30.6081   |
| 8     | 24.8       | 11316126.089 | 400799.27   | 0.020030031  | 0.929004635 | 0.834907885    | 0.25          | 0.868795      | 33.32191  |
| 7     | 21.7       | 11316126.089 | 2800999.11  | 0.017526277  | 0.941818912 | 0.874161227    | 0.25          | 0.918781      | 36.09861  |
| 6     | 18.6       | 11516126.089 | 3809999.25  | 0.015022573  | 0.953453435 | 0.913668894    | 0.25          | 0.968743      | 38.93965  |
| 5     | 15.5       | 11516126.089 | 3508886.91  | 0.012516476  | 0.974977911 | 0.953453435    | 0.25          | 0.994972      | 41.81929  |
| 4     | 12.4       | 11516126.089 | 28028491.33 | 0.010014731  | 0.984886991 | 0.993453435    | 0.25          | 0.994972      | 43.34167  |
| 3     | 9.3        | 11516126.089 | 15029620.15 | 0.007511085  | 0.993453435 | 0.993453435    | 0.25          | 0.994972      | 44.39513  |
| 2     | 6.2        | 11516126.089 | 1011786.77  | 0.005007819  | 0.993453435 | 0.993453435    | 0.25          | 0.994972      | 45.47317  |
| 1     | 3.1        | 11516126.089 | 891280.411  | 0.002503913  | 0.993453435 | 0.993453435    | 0.25          | 0.994972      | 46.56113  |
| 0     | 0          | 0            | 0           | 0            | 0           | 0              | 0.25          | 0.994972      | 47.64913  |
| SUM   |            | 44903294.42  | 200991736   | 1            |             |                |               |               |           |

Table 4.3 Vertical Profile of Yield

| 1     | 2                | 3               | 4                |
|-------|------------------|-----------------|------------------|
| Level | Height $H_i$ (m) | Mass $m_i$ (kg) | $\Delta y_i$ (m) |
| 28    | 86.8             | 1235096.366     | 1.748            |
| 27    | 83.7             | 1616126.089     | 1.658            |
| 26    | 80.6             | 1616126.089     | 1.568            |
| 25    | 77.5             | 1616126.089     | 1.479            |
| 24    | 74.4             | 1616126.089     | 1.389            |
| 23    | 71.3             | 1616126.089     | 1.299            |
| 22    | 68.2             | 1616126.089     | 1.211            |
| 21    | 65.1             | 1616126.089     | 1.124            |
| 20    | 62               | 1616126.089     | 1.038            |
| 19    | 58.9             | 1616126.089     | 0.953            |
| 18    | 55.8             | 1616126.089     | 0.87             |
| 17    | 52.7             | 1616126.089     | 0.789            |
| 16    | 49.6             | 1616126.089     | 0.711            |
| 15    | 46.5             | 1616266.863     | 0.635            |
| 14    | 43.4             | 1616266.863     | 0.562            |
| 13    | 40.3             | 1616266.863     | 0.492            |
| 12    | 37.2             | 1616266.863     | 0.426            |
| 11    | 34.1             | 1616266.863     | 0.364            |
| 10    | 31               | 1616126.089     | 0.305            |
| 9     | 27.9             | 1616126.089     | 0.251            |
| 8     | 24.8             | 1616126.089     | 0.201            |
| 7     | 21.7             | 1616126.089     | 0.156            |
| 6     | 18.6             | 1616126.089     | 0.116            |
| 5     | 15.5             | 1616088.188     | 0.082            |
| 4     | 12.4             | 1616088.188     | 0.053            |
| 3     | 9.3              | 1616088.188     | 0.03             |
| 2     | 6.2              | 1616088.188     | 0.014            |
| 1     | 3.1              | 1610367.874     | 0.004            |
| 0     | 0                | 0               | 0                |
| SUM   |                  | 44865294.82     |                  |

#### 4.3.4 Design Displacement Profile

##### **Wall Material Strains**

The assumption of  $\epsilon_{SU} = 0.1$  is based on the fact that there is no information of the strain at the maximum stress for the wall reinforcing steel.

$$\Phi_{dc} = 0.9 \times 0.072 / l_w = 0.0648 / 4.2 = 0.015$$

Plastic hinge length is calculated through the equation;

$$L_p = kH_{CF} + 0.1l_w + L_{SP}$$

Where:

$$K = 0.2(f_u/f_y - 1) = 0.07$$

$$L_{SP} = 0.022 f_{ye} d_{bi} = 179.32 \text{ mm}$$

$$L_p = 0.2(1.35 - 1) \times 79.25 + 0.1 \times 4.2 + 0.179 = 6.147 \text{ m}$$

Check if drift limit at  $H_{CF}$  is exceeded.

$$\Theta_{CF} = \phi_y H_{CF} / 2 + (\phi_{dc} - \phi_y) L_p$$

$$\theta_{CF} = 0.000728 \times 39.625 + (0.015 - 0.000728) \times 6.147$$

$$\theta_{CF} = 0.117$$

This exceeds the drift limit; hence code drift limits govern the wall design.

##### **Drift Limits**

Since the building is tall, a drift amplification should be considered. Base turning moment carried by the frame is;

$$M_{OTM,F} = OTM - \text{wall moment}$$

$$= 58.44 - 57.66$$

$$= 0.78$$

$$\Omega = \frac{\quad}{\quad}$$

$$= \frac{\quad}{\quad}$$

$$= 0.942$$

The design drift limit is then reduced to  $0.942 \times 0.02$  making  $\phi_C = 0.0188$ .

The design profile is then given as;

$$\begin{aligned}\Delta_{Di} &= \Delta_{yi} + (\phi_C - \phi_y H_{CF} / 2) H_i \\ &= \Delta_{yi} + 0.01 H_i\end{aligned}$$

From those equations, we are then able to identify the Design displacement ( $\Delta_D$ ) and Height effective ( $H_e$ ).

#### 4.3.5 Design SDOF Displacement and Effective Height

Based on table 4.4, the values of Design displacement ( $\Delta_D$ ) and Height effective ( $H_e$ ) can be calculated.

By using eq. 3 and 5,  $\Delta_D$  and  $H_e$  is obtained.

$$\begin{aligned}\Delta_D &= 1.689 \text{ m} \\ H_e &= 61.85 \text{ m}\end{aligned}$$

#### 4.3.6 Equivalent Damping

To find the equivalent damping of the structure, the displacement ductility demands of walls and frames must be evaluated.

$$\begin{aligned}\text{(a) Walls : } \Delta_{iy} &= \phi_y ( \text{—————} \text{ ————} ) \\ &= 0.000728 ( \text{—————} \text{ ————} ) \\ &= 1.022 \text{ m} \\ \mu_w &= \Delta_D / \Delta_{iyw} \\ &= 1.689 / 1.022 \\ &= 1.653 \\ \xi_w &= 0.05 + 0.444 \text{ ————} \\ &= 0.05 + 0.444 \text{ ————} \\ &= 0.225\end{aligned}$$

**(b) Frames :** According to eq. 6, the yield drift for reinforced concrete frames is ————

$$\begin{aligned}\theta_{yframe} &= \text{—————} \\ &= 0.00236 \\ \mu_{Frame} &= \Delta_D / \Delta_{yframe} \\ &= 1.689 / \theta_{yframe} (0.6 H_n)\end{aligned}$$

$$\begin{aligned}
&= 1.689 / 0.120 \\
&= 1.569 \\
\xi_{\text{frame}} &= 0.05 + 0.565 \frac{\mu-1}{\mu\pi} \\
&= 0.255
\end{aligned}$$

So by inserting the OTM values into eq. (6), the value of system damping is obtained.

$$\begin{aligned}
\xi_{\text{sys}} &= \frac{\xi_w M_{OTM,W} + \xi_{\text{frame}} M_{OTM,F}}{M_{OTM}} \\
&= \frac{0.225 \times 57.66 + 0.255 \times 0.78}{58.44} \\
&= 0.2254
\end{aligned}$$

#### 4.3.7 Base Shear Force

The spectral displacement reduction factor for damping referring back to eq.(7) ;

$$R_{0.225} = \left( \frac{0.07}{0.02+0.225} \right)^{0.5} = 0.535$$

##### (a) Effective Period:

Looking at figure 4.2, the spectral displacement for a 5% damping is 1.087 m. Thus at 5 sec, the corner displacement for 22.54% damping is  $1.087 \times 0.535 = 0.582$  m.

The effective period is in proportion, meaning

$$T_{\text{eff}} = 5 \times 0.476 / 0.582 = 4.089$$

##### (b) Effective Mass:

As was stated in eq. 4, effective mass of the structure is;

$$m_e = 30140419.5 \text{ kg}$$

##### (c) Effective Stiffness:

Stated in chapter 3 eq. (9), effective stiffness is

$$K_{\text{eff}} = 4\pi^2 \frac{m_e}{T_e^2}$$

$$\text{Therefore, } K_{\text{eff}} = 4\pi^2 \frac{30140419.5}{4.089^2} = 22652958.82 \text{ kg}$$

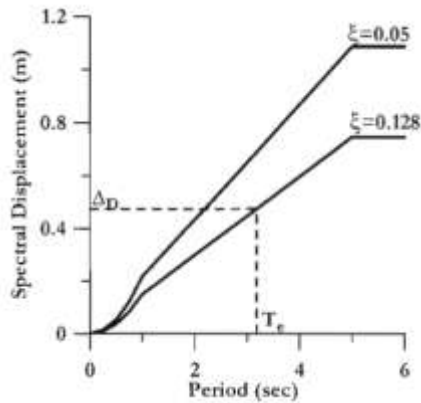


Figure 4.2 Spectral Displacement Vs Period

**(d) Base Shear Distribution:**

As was mentioned earlier in chapter 3 eq. (10), the value of base shear is the product of effective stiffness ( $K_{eff}$ ) and the design displacement ( $\Delta_d$ ).

Hence;  $VB = 3825840 \text{ kg}$

This is 19.14% less than Base Shear from Force Based design method. The results of base shear distribution is shown on table 4.5.

Table 4.4 Design Displacement and Effective Height

| Level | Height $H_i$ (m) | Mass $m_i$ (kg) | $\Delta y_i$ (m) | $\Delta D_i$ (m) | $m_i \Delta^2 D_i$ | $m_i \Delta D_i$ | $m_i \Delta D_i H_i$ |
|-------|------------------|-----------------|------------------|------------------|--------------------|------------------|----------------------|
| 28    | 86.8             | 1235096.366     | 1.748            | 2.616            | 8452327.636        | 3231012.093      | 280451849.7          |
| 27    | 83.7             | 1616126.089     | 1.658            | 2.495            | 10060425.31        | 4032234.592      | 337498035.3          |
| 26    | 80.6             | 1616126.089     | 1.568            | 2.374            | 9108286.237        | 3836683.335      | 309236676.8          |
| 25    | 77.5             | 1616126.089     | 1.479            | 2.254            | 8210754.452        | 3642748.204      | 282312985.8          |
| 24    | 74.4             | 1616126.089     | 1.389            | 2.133            | 7352871.089        | 3447196.947      | 256471452.9          |
| 23    | 71.3             | 1616126.089     | 1.299            | 2.012            | 6542311.13         | 3251645.691      | 231842337.7          |
| 22    | 68.2             | 1616126.089     | 1.211            | 1.893            | 5791305.417        | 3059326.686      | 208646080            |
| 21    | 65.1             | 1616126.089     | 1.124            | 1.775            | 5091807.259        | 2868623.808      | 186747409.9          |
| 20    | 62               | 1616126.089     | 1.038            | 1.658            | 4442672.438        | 2679537.055      | 166131297.4          |
| 19    | 58.9             | 1616126.089     | 0.953            | 1.542            | 3842766.433        | 2492066.429      | 146782712.7          |
| 18    | 55.8             | 1616126.089     | 0.87             | 1.428            | 3295578.462        | 2307828.055      | 128776805.5          |
| 17    | 52.7             | 1616126.089     | 0.789            | 1.316            | 2798897.664        | 2126821.933      | 112083515.9          |
| 16    | 49.6             | 1616126.089     | 0.711            | 1.207            | 2354451.676        | 1950664.189      | 96752943.78          |
| 15    | 46.5             | 1616266.863     | 0.635            | 1.1              | 1955682.904        | 1777893.55       | 82672050.05          |
| 14    | 43.4             | 1616266.863     | 0.562            | 0.996            | 1603362.589        | 1609801.796      | 69865397.94          |
| 13    | 40.3             | 1616266.863     | 0.492            | 0.895            | 1294670.164        | 1446558.843      | 58296321.36          |
| 12    | 37.2             | 1616266.863     | 0.426            | 0.798            | 1029245.204        | 1289780.957      | 47979851.59          |
| 11    | 34.1             | 1616266.863     | 0.364            | 0.705            | 803325.0377        | 1139468.139      | 38855863.52          |
| 10    | 31               | 1616126.089     | 0.305            | 0.615            | 611259.2899        | 993917.5446      | 30811443.88          |
| 9     | 27.9             | 1616126.089     | 0.251            | 0.53             | 453969.8183        | 856546.8271      | 23897656.48          |
| 8     | 24.8             | 1616126.089     | 0.201            | 0.449            | 325812.6356        | 725640.6139      | 17995887.22          |
| 7     | 21.7             | 1616126.089     | 0.156            | 0.373            | 224850.0066        | 602815.0311      | 13081086.18          |
| 6     | 18.6             | 1616126.089     | 0.116            | 0.302            | 147397.1638        | 488070.0788      | 9078103.466          |
| 5     | 15.5             | 1616088.188     | 0.082            | 0.237            | 90774.05743        | 383012.9006      | 5936699.959          |
| 4     | 12.4             | 1616088.188     | 0.053            | 0.177            | 50630.42684        | 286047.6093      | 3546990.355          |
| 3     | 9.3              | 1616088.188     | 0.03             | 0.123            | 24449.7982         | 198778.8471      | 1848643.278          |
| 2     | 6.2              | 1616088.188     | 0.014            | 0.076            | 9334.525374        | 122822.7023      | 761500.7542          |
| 1     | 3.1              | 1610367.874     | 0.004            | 0.035            | 1972.700646        | 56362.8756       | 174724.9144          |
| 0     | 0                | 0               | 0                | 0                | 0                  | 0                | 0                    |
| SUM   |                  | 44865294.82     |                  |                  | 85971191.52        | 50903907.33      | 3148536324           |



Table 4.5 Base Shear Distribution

| Floor Level | h (m) | $m_i \Delta i$ | $F_i$ (kg) |
|-------------|-------|----------------|------------|
| 28          | 86.8  | 3231012        | 242836.6   |
| 27          | 83.7  | 4032235        | 303055     |
| 26          | 80.6  | 3836683        | 288357.7   |
| 25          | 77.5  | 3642748        | 273781.9   |
| 24          | 74.4  | 3447197        | 259084.7   |
| 23          | 71.3  | 3251646        | 244387.4   |
| 22          | 68.2  | 3059327        | 229933.1   |
| 21          | 65.1  | 2868624        | 215600.2   |
| 20          | 62    | 2679537        | 201388.8   |
| 19          | 58.9  | 2492066        | 187298.9   |
| 18          | 55.8  | 2307828        | 173451.9   |
| 17          | 52.7  | 2126822        | 159847.8   |
| 16          | 49.6  | 1950664        | 146608.2   |
| 15          | 46.5  | 1777894        | 133623.1   |
| 14          | 43.4  | 1609802        | 120989.6   |
| 13          | 40.3  | 1446559        | 108720.6   |
| 12          | 37.2  | 1289781        | 96937.45   |
| 11          | 34.1  | 1139468        | 85640.23   |
| 10          | 31    | 993917.5       | 74700.93   |
| 9           | 27.9  | 856546.8       | 64376.41   |
| 8           | 24.8  | 725640.6       | 54537.75   |
| 7           | 21.7  | 602815         | 45306.42   |
| 6           | 18.6  | 488070.1       | 36682.41   |
| 5           | 15.5  | 383012.9       | 28786.51   |
| 4           | 12.4  | 286047.6       | 21498.79   |
| 3           | 9.3   | 198778.8       | 14939.84   |
| 2           | 6.2   | 122822.7       | 9231.118   |
| 1           | 3.1   | 56362.88       | 4236.125   |
| SUM         |       | 50903907       | 3825840    |

#### 4.4 STRUCTURAL ANALYSIS

To work out forces acting on the structure, an analysis must be carried out by using the program SAP2000 to do so. The load combinations used are based on the Indonesian standard building codes (SNI), which was mentioned in chapter 3 equations (12a) through to (12d). The results of the analysis are attached in the appendix.

#### 4.5 REINFORCEMENT CALCULATIONS

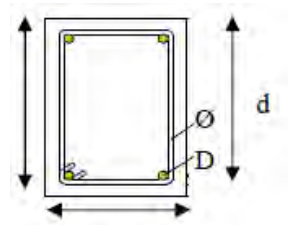
Once the analysis is complete, a calculation for reinforcement follows. The calculation of reinforcement is based on the concept of *Strong Column – Weak Beam* (SCWB) and also follows the Indonesian Building Codes (SNI). The result of the reinforcement calculations are below.

##### 4.5.1 Beams Reinforcement

Below are the numbers of reinforcements needed on specific beams based on the Direct Displacement Based Design based on equations (13a) to (13e) in chapter 3.

The basic outline of the calculations is as follows:

|                   |            |
|-------------------|------------|
| Dimension of Beam | = 40/60 cm |
| Length            | = 770 cm   |
| Decking           | = 40 mm    |
| D                 | = 18 mm    |
| $\Phi$            | = 10 mm    |
| $f_y$             | = 390 MPa  |
| $f'_c$            | = 50 MPa   |



$$d = hf - d' - \Phi - (0.5 \times \Phi) = 541 \text{ mm}$$

$$\rho_b = \frac{0,85 \cdot f'_c}{f_y} \cdot \beta_1 \cdot \left( \frac{600}{600 + f_y} \right) = 0.046$$

$$\rho_{\min} = \frac{\sqrt{f_c'}}{4 \cdot f_y} = 0.0045$$

$$\rho_{\max} = 0.75 \times \rho_b = 0.034$$

$$m = \frac{f_y}{0.85 \cdot f_c} = 9.176$$

For Longitudinal Beam Reinforcement;

$$R_n = \frac{M_u}{\phi \cdot b \cdot d^2}$$

$$P_{\text{need}} = \frac{1}{m} \left( 1 - \sqrt{1 - \frac{2 \cdot m \cdot R_n}{f_y}} \right)$$

$$A_{S_{\text{need}}} = \rho \cdot b \cdot d$$

$$\text{Number of reinforcement} = \frac{A_{S_{\text{need}}}}{1/4 \pi \phi^2}$$

$$S = \frac{bw - 2\phi_{\text{trans}} - 2 \cdot \text{decking} - n \cdot \phi_{\text{longitude}}}{n - 1} \geq 25mm$$

Below is the recap of the longitudinal reinforcement for beams:

Table 4.6 DDBD Longitudinal Beam Reinforcement

| Beam   | Level | Location  | Diameter (mm) | N Reinforcement | N Layer | S Reinforcement (mm) |
|--------|-------|-----------|---------------|-----------------|---------|----------------------|
| 2-1 A  | 1     | Left (-)  | 18            | 4               | 1       | 76.00                |
|        |       | (+)       |               | 2               | 1       | 264.00               |
|        |       | Right (-) |               | 4               | 1       | 76.00                |
|        |       | (+)       |               | 2               | 1       | 264.00               |
|        |       | Middle    |               | 2               | 1       | 264.00               |
|        | 6     | Left (-)  | 18            | 6               | 1       | 38.00                |
|        |       | (+)       |               | 2               | 1       | 264.00               |
|        |       | Right (-) |               | 6               | 1       | 38.00                |
|        |       | (+)       |               | 2               | 1       | 264.00               |
|        |       | Middle    |               | 2               | 1       | 264.00               |
|        | 11    | Left (-)  | 18            | 8               | 2       | 76.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Right (-) |               | 6               | 1       | 38.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Middle    |               | 2               | 1       | 264.00               |
|        | 16    | Left (-)  | 18            | 8               | 2       | 76.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Right (-) |               | 6               | 2       | 76.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Middle    |               | 2               | 1       | 264.00               |
|        | 21    | Left (-)  | 18            | 8               | 2       | 76.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Right (-) |               | 8               | 1       | 22.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Middle    |               | 2               | 1       | 264.00               |
|        | 27    | Left (-)  | 18            | 4               | 1       | 76.00                |
|        |       | (+)       |               | 2               | 1       | 264.00               |
|        |       | Right (-) |               | 6               | 1       | 38.00                |
|        |       | (+)       |               | 4               | 1       | 76.00                |
|        |       | Middle    |               | 2               | 1       | 264.00               |
| 11 E U | 1     | Left (-)  | 18            | 4               | 1       | 76.00                |
|        |       | (+)       |               | 2               | 1       | 260.00               |
|        |       | Right (-) |               | 4               | 1       | 76.00                |
|        |       | (+)       |               | 2               | 1       | 260.00               |
|        |       | Middle    |               | 2               | 1       | 260.00               |
|        | 6     | Left (-)  | 18            | 10              | 2       | 52.00                |
|        |       | (+)       |               | 6               | 1       | 30.00                |
|        |       | Right (-) |               | 6               | 1       | 30.00                |
|        |       | (+)       |               | 4               | 1       | 70.00                |
|        |       | Middle    |               | 4               | 1       | 70.00                |
|        | 11    | Left (-)  | 18            | 10              | 2       | 52.00                |
|        |       | (+)       |               | 8               | 2       | 70.00                |
|        |       | Right (-) |               | 8               | 2       | 70.00                |
|        |       | (+)       |               | 6               | 1       | 30.00                |
|        |       | Middle    |               | 4               | 1       | 70.00                |

Table 4.6 DDBD Longitudinal Beam Reinforcement (Continued)

|  |    |           |    |    |   |        |
|--|----|-----------|----|----|---|--------|
|  | 16 | Left (-)  | 18 | 10 | 2 | 52.00  |
|  |    | (+)       |    | 6  | 1 | 30.00  |
|  |    | Right (-) |    | 6  | 1 | 30.00  |
|  |    | (+)       |    | 6  | 1 | 30.00  |
|  | 21 | Middle    | 18 | 4  | 1 | 70.00  |
|  |    | Left (-)  |    | 8  | 2 | 76.00  |
|  |    | (+)       |    | 6  | 1 | 30.00  |
|  |    | Right (-) |    | 6  | 1 | 30.00  |
|  |    | (+)       |    | 4  | 1 | 70.00  |
|  | 27 | Middle    | 18 | 4  | 1 | 70.00  |
|  |    | Left (-)  |    | 6  | 1 | 30.00  |
|  |    | (+)       |    | 4  | 1 | 70.00  |
|  |    | Right (-) |    | 4  | 1 | 70.00  |
|  |    | (+)       |    | 4  | 1 | 70.00  |
|  |    | Middle    |    | 2  | 1 | 260.00 |

For Transversal Beam Reinforcement;

$$M_{pr} = A_s \times 1,25 \times f_y \times \left( d - \frac{a}{2} \right)$$

$$a = \frac{A_s \times 1,25 \times f_y}{0,85 \times f'_c \times b}$$

$$W_u = \text{Weight Ultimate} = 1.2 D L_{\text{total}} + 1.0 L L_{\text{total}}$$

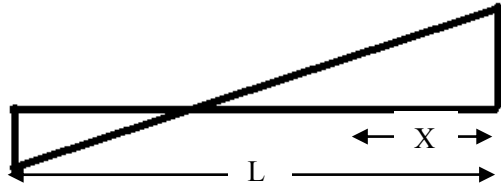
$$V_{ekn} = \frac{M_{pr1} + M_{pr2}}{L} - \frac{W_u \cdot L}{2}$$

$$V_{ekn} = \frac{M_{pr1} + M_{pr2}}{L} + \frac{W_u \cdot L}{2}$$

Reinforcement within the plastic hinge area;

$$V_C = 0, \quad V_s = V_u / \phi$$

$$V_C \neq 0, \quad V_s = \frac{V_u - V_C}{\phi} \times b \times d$$



Requirement of distance minimum according to  
SNI 2847-2013 pasal 21.5.3.4 is  $\frac{1}{2} \cdot d$

Table 4.7 DDBD Transversal Beam Reinforcement

| Beam   | Level | Location              | Diameter (mm) | S Reinforcement (mm) |
|--------|-------|-----------------------|---------------|----------------------|
| 2-1 A  | 1     | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270.00               |
|        | 6     | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270.00               |
|        | 11    | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270.00               |
|        | 16    | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270.00               |
|        | 21    | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270.00               |
|        | 27    | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270                  |
| 11 E-H | 1     | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270.00               |
|        | 6     | Plastic Hinge         | 10            | 120.00               |
|        |       | Outside Plastic Hinge |               | 220.00               |
|        | 11    | Plastic Hinge         | 10            | 110.00               |
|        |       | Outside Plastic Hinge |               | 190.00               |
|        | 16    | Plastic Hinge         | 10            | 120.00               |
|        |       | Outside Plastic Hinge |               | 220.00               |
|        | 21    | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 260.00               |
|        | 27    | Plastic Hinge         | 10            | 130.00               |
|        |       | Outside Plastic Hinge |               | 270                  |

#### 4.5.2 Columns Reinforcement

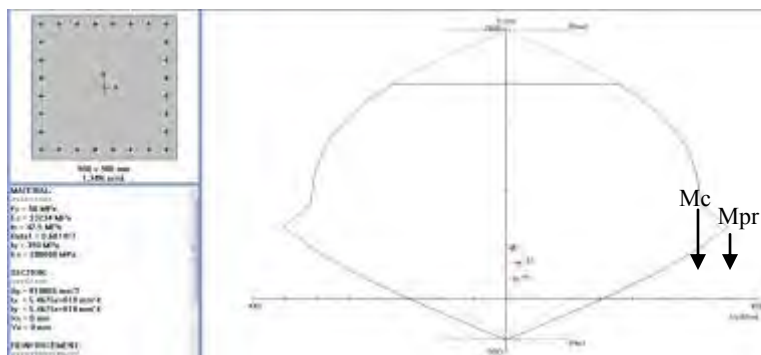
For calculations regarding Columns reinforcement, the program PCACOL is used for aid.

The reinforcement ratio cannot be smaller than 1% and all the factored loads must be inside of the diagram as shown in figure 4.3.

Table 4.8 shows the number of reinforcement needed for columns.

Table 4.8 DDBD Columns Longitudinal and Transversal Reinforcement

| Column | Level | Diameter | Longitudinal | Diameter | Transversal |
|--------|-------|----------|--------------|----------|-------------|
| K1     | 1     | 22       | 28           | 18       | 4D18-100    |
|        | 5     | 22       | 28           | 18       | 4D18-100    |
|        | 10    | 22       | 28           | 18       | 4D18-100    |
|        | 15    | 22       | 28           | 18       | 4D18-100    |
|        | 20    | 22       | 28           | 18       | 4D18-115    |
|        | 25    | 22       | 24           | 18       | 3D18-125    |
| K3     | 1     | 22       | 28           | 22       | 3D22-100    |
|        | 5     | 22       | 28           | 22       | 3D22-100    |
|        | 10    | 22       | 28           | 22       | 3D22-100    |
|        | 15    | 22       | 28           | 22       | 3D22-100    |
|        | 20    | 22       | 28           | 22       | 3D22-115    |
|        | 25    | 22       | 28           | 22       | 2D22-125    |



### Figure 4.3 PCACOL Analysis Result



#### 4.5.3 Shearwall Reinforcement

The same with the longitudinal column reinforcement calculation, the longitudinal calculation for shearwall uses the program PCACOL for aid.

The transversal reinforcements requirements and steps are as follows:

If  $V_u > 0.17 A_{cw} \lambda \sqrt{f'_c}$ , then the wall need to have 2 layers of reinforcement, otherwise, single layer is sufficient.

$$\begin{aligned}
 V_n &= A_{cv} \\
 &= 0.0025 \\
 &= V_n \text{ pakai } L_w / t_w - \alpha c * 1 * \text{---} / f_y \\
 &= \text{---} \text{ but cannot be smaller than } \\
 A_{sneed} &= \text{---} \times L_w \times \text{thickness of wall}
 \end{aligned}$$

Table 4.9 DDBD Shearwall Reinforcement

| SHEARWALL | Section  | Diameter | Longitudinal |    | Diameter | Transversal |    |        |
|-----------|----------|----------|--------------|----|----------|-------------|----|--------|
|           |          |          | Nx           | Ny |          | Layer       | N  | S (mm) |
| SW1       | 8 B-C    | 25       | 15           | 2  | 25       | 2           | 25 | 150    |
|           | 8 B-10   | 25       | 15           | 2  | 25       | 2           | 28 | 150    |
| SW2       | 4 K-L    | 25       | 15           | 2  | 25       | 2           | 25 | 150    |
|           | 4 L-2-4  | 25       | 15           | 2  | 25       | 2           | 30 | 150    |
| SW3       | 4 C-D    | 25       | 15           | 2  | 25       | 2           | 28 | 130    |
|           | 4 C-2-4  | 25       | 15           | 2  | 25       | 2           | 30 | 150    |
| SW4       | 8 K-L    | 25       | 15           | 2  | 25       | 2           | 26 | 140    |
|           | 8 L-8-10 | 25       | 15           | 2  | 25       | 2           | 28 | 150    |
| SW5       | 10 F-G   | 25       | 10           | 1  | 25       | 2           | 28 | 70     |
|           | 8 F-G    | 25       | 10           | 1  | 25       | 2           | 30 | 70     |
|           | 8 F-8-10 | 25       | 15           | 2  | 25       | 2           | 28 | 150    |
| SW6       | 2 F-G    | 25       | 10           | 1  | 25       | 2           | 31 | 60     |
|           | 4 F-G    | 25       | 10           | 1  | 25       | 2           | 28 | 70     |
|           | 2 F-2-3  | 25       | 15           | 2  | 25       | 2           | 30 | 150    |

#### 4.6 FORCE BASED VS DDBD REINFORCEMENT

Tables 4.10, 4.11 and 4.12 are the reinforcements for the design using Force Based alongside DDBD.

Table 4.10 Comparison of DDBD vs Force Based  
Beams Reinforcement

|       |       |           |      | DDBD            | FB              | comparisor |
|-------|-------|-----------|------|-----------------|-----------------|------------|
| Beam  | Level | Location  | eter | N Reinforcement | N Reinforcement | DDBD/FB    |
| 2-1 A | 1     | Left (-)  | 18   | 4               | 4               | 100.00     |
|       |       | (+)       |      | 2               | 2               | 100.00     |
|       |       | Right (-) |      | 4               | 4               | 100.00     |
|       |       | (+)       |      | 2               | 2               | 100.00     |
|       |       | Middle    |      | 2               | 2               | 100.00     |
|       | 6     | Left (-)  | 18   | 6               | 8               | 75.00      |
|       |       | (+)       |      | 2               | 4               | 50.00      |
|       |       | Right (-) |      | 6               | 6               | 100.00     |
|       |       | (+)       |      | 2               | 4               | 50.00      |
|       |       | Middle    |      | 2               | 2               | 100.00     |
|       | 11    | Left (-)  | 18   | 8               | 8               | 100.00     |
|       |       | (+)       |      | 4               | 4               | 100.00     |
|       |       | Right (-) |      | 6               | 8               | 75.00      |
|       |       | (+)       |      | 4               | 4               | 100.00     |
|       |       | Middle    |      | 2               | 2               | 100.00     |
|       | 16    | Left (-)  | 18   | 8               | 8               | 100.00     |
|       |       | (+)       |      | 4               | 6               | 66.67      |
|       |       | Right (-) |      | 6               | 8               | 75.00      |
|       |       | (+)       |      | 4               | 6               | 66.67      |
|       |       | Middle    |      | 2               | 2               | 100.00     |
|       | 21    | Left (-)  | 18   | 8               | 8               | 100.00     |
|       |       | (+)       |      | 4               | 4               | 100.00     |
|       |       | Right (-) |      | 8               | 8               | 100.00     |
|       |       | (+)       |      | 4               | 4               | 100.00     |
|       |       | Middle    |      | 2               | 2               | 100.00     |
|       | 27    | Left (-)  | 18   | 4               | 8               | 50.00      |
|       |       | (+)       |      | 2               | 4               | 50.00      |
|       |       | Right (-) |      | 6               | 8               | 75.00      |
|       |       | (+)       |      | 4               | 4               | 100.00     |
|       |       | Middle    |      | 2               | 2               | 100.00     |

Table 4.10 Comparison of DDBD vs Force Based Beams  
Reinforcement (Continued)

|        |    |           |    |    |    |        |
|--------|----|-----------|----|----|----|--------|
| 11 E-H | 1  | Left (-)  | 18 | 4  | 4  | 100.00 |
|        |    | (+)       |    | 2  | 2  | 100.00 |
|        |    | Right (-) |    | 4  | 4  | 100.00 |
|        |    | (+)       |    | 2  | 2  | 100.00 |
|        |    | Middle    |    | 2  | 2  | 100.00 |
|        | 6  | Left (-)  | 18 | 10 | 10 | 100.00 |
|        |    | (+)       |    | 6  | 8  | 75.00  |
|        |    | Right (-) |    | 6  | 8  | 75.00  |
|        |    | (+)       |    | 4  | 6  | 66.67  |
|        |    | Middle    |    | 4  | 4  | 100.00 |
|        | 11 | Left (-)  | 18 | 10 | 12 | 83.33  |
|        |    | (+)       |    | 8  | 10 | 80.00  |
|        |    | Right (-) |    | 8  | 8  | 100.00 |
|        |    | (+)       |    | 6  | 6  | 100.00 |
|        |    | Middle    |    | 4  | 4  | 100.00 |
|        | 16 | Left (-)  | 18 | 10 | 12 | 83.33  |
|        |    | (+)       |    | 6  | 8  | 75.00  |
|        |    | Right (-) |    | 6  | 8  | 75.00  |
|        |    | (+)       |    | 6  | 6  | 100.00 |
|        |    | Middle    |    | 4  | 4  | 100.00 |
|        | 21 | Left (-)  | 18 | 8  | 10 | 80.00  |
|        |    | (+)       |    | 6  | 8  | 75.00  |
|        |    | Right (-) |    | 6  | 6  | 100.00 |
|        |    | (+)       |    | 4  | 6  | 66.67  |
|        |    | Middle    |    | 4  | 4  | 100.00 |
|        | 27 | Left (-)  | 18 | 6  | 8  | 75.00  |
|        |    | (+)       |    | 4  | 6  | 66.67  |
|        |    | Right (-) |    | 4  | 4  | 100.00 |
|        |    | (+)       |    | 4  | 4  | 100.00 |
|        |    | Middle    |    | 2  | 4  | 50.00  |

Table 4.11 Comparison of DDBD vs Force Based Column Reinforcement

|        |       | DDBD     |              |          |             | FB       |              |          |             |
|--------|-------|----------|--------------|----------|-------------|----------|--------------|----------|-------------|
| Column | Level | Diameter | Longitudinal | Diameter | Transversal | Diameter | Longitudinal | Diameter | Transversal |
| K1     | 1     | 22       | 28           | 18       | 4D18-100    | 22       | 28           | 18       | 4D18-100    |
|        | 5     | 22       | 28           | 18       | 4D18-100    | 22       | 28           | 18       | 4D18-100    |
|        | 10    | 22       | 28           | 18       | 4D18-100    | 22       | 28           | 18       | 4D18-100    |
|        | 15    | 22       | 28           | 18       | 4D18-100    | 22       | 28           | 18       | 4D18-100    |
|        | 20    | 22       | 28           | 18       | 4D18-115    | 22       | 28           | 18       | 4D18-115    |
|        | 25    | 22       | 24           | 18       | 3D18-125    | 22       | 24           | 18       | 3D18-125    |
| K3     | 1     | 22       | 28           | 22       | 3D22-100    | 22       | 36           | 22       | 3D22-100    |
|        | 5     | 22       | 28           | 22       | 3D22-100    | 22       | 28           | 22       | 3D22-100    |
|        | 10    | 22       | 28           | 22       | 3D22-100    | 22       | 28           | 22       | 3D22-100    |
|        | 15    | 22       | 28           | 22       | 3D22-100    | 22       | 28           | 22       | 3D22-100    |
|        | 20    | 22       | 28           | 22       | 3D22-115    | 22       | 28           | 22       | 3D22-115    |
|        | 25    | 22       | 28           | 22       | 2D22-125    | 22       | 28           | 22       | 2D22-125    |

Table 4.12 Comparison of DDBD vs Force Based Shearwall Reinforcement

| HEARWAL | Section | Diameter | Longitudinal |    | Diameter | Transversal |    |        | Diameter | Longitudinal |    | Diameter | Transversal |    |        |
|---------|---------|----------|--------------|----|----------|-------------|----|--------|----------|--------------|----|----------|-------------|----|--------|
|         |         |          | Nx           | Ny |          | Layer       | N  | S (mm) |          | Nx           | Ny |          | Layer       | N  | S (mm) |
| SW1     | 8 B-C   | 25       | 15           | 2  | 25       | 2           | 29 | 130    | 25       | 15           | 2  | 25       | 2           | 25 | 150    |
|         | B 8-10  | 25       | 15           | 2  | 25       | 2           | 28 | 150    | 25       | 15           | 2  | 25       | 2           | 28 | 150    |
| SW2     | 4 K-L   | 25       | 15           | 2  | 25       | 2           | 32 | 120    | 25       | 15           | 2  | 25       | 2           | 25 | 150    |
|         | L 2-4   | 25       | 15           | 2  | 25       | 2           | 30 | 150    | 25       | 15           | 2  | 25       | 2           | 30 | 150    |
| SW3     | 4 C-D   | 25       | 15           | 2  | 25       | 2           | 36 | 100    | 25       | 15           | 2  | 25       | 2           | 28 | 130    |
|         | C 2-4   | 25       | 15           | 2  | 25       | 2           | 34 | 130    | 25       | 15           | 2  | 25       | 2           | 30 | 150    |
| SW4     | 8 K-L   | 25       | 15           | 2  | 25       | 2           | 33 | 110    | 25       | 15           | 2  | 25       | 2           | 26 | 140    |
|         | L 8-10  | 25       | 15           | 2  | 25       | 2           | 30 | 140    | 25       | 15           | 2  | 25       | 2           | 28 | 150    |
| SW5     | 10 F-G  | 25       | 10           | 1  | 25       | 2           | 36 | 50     | 25       | 10           | 1  | 25       | 2           | 28 | 70     |
|         | 8 F-G   | 25       | 10           | 1  | 25       | 2           | 36 | 50     | 25       | 10           | 1  | 25       | 2           | 30 | 70     |
|         | F 8-10  | 25       | 15           | 2  | 25       | 2           | 28 | 150    | 25       | 15           | 2  | 25       | 2           | 28 | 150    |
| SW6     | 2 F-G   | 25       | 10           | 1  | 25       | 2           | 37 | 50     | 25       | 10           | 1  | 25       | 2           | 31 | 60     |
|         | 4 F-G   | 25       | 10           | 1  | 25       | 2           | 34 | 60     | 25       | 10           | 1  | 25       | 2           | 28 | 70     |
|         | F 2-3   | 25       | 15           | 2  | 25       | 2           | 30 | 150    | 25       | 15           | 2  | 25       | 2           | 30 | 150    |
|         |         |          | FB           |    |          |             |    |        |          | DDBD         |    |          |             |    |        |

#### 4.7 FORCE BASED VS DDBD DISPLACEMENT

A recap of the joint displacements of chosen rows from the structure derived from the SAP2000 Analysis is shown on Table 4.13. The chosen row of joints is located on the 27<sup>th</sup> floor / at 86.8m elevation highlighted on the below figure of the structure.

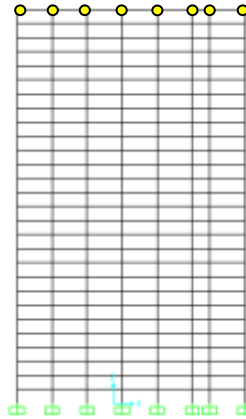


Figure 4.4 Structure SAP2000 Plan View

| Joint | Row | Force Based |            | DDBD       |            |
|-------|-----|-------------|------------|------------|------------|
|       |     | Load Case   | U1 (mm)    | Load Case  | U1 (mm)    |
| 1960  | 1   | 1.2D+1L+1E  | 117.134975 | 1.2D+1L+1E | 94.210366  |
| 1961  | 1   | 1.2D+1L+1E  | 117.134373 | 1.2D+1L+1E | 94.209003  |
| 1974  | 1   | 1.2D+1L+1E  | 117.146837 | 1.2D+1L+1E | 94.218463  |
| 1975  | 1   | 1.2D+1L+1E  | 117.178874 | 1.2D+1L+1E | 94.239873  |
| 1988  | 1   | 1.2D+1L+1E  | 117.175774 | 1.2D+1L+1E | 94.231316  |
| 1989  | 1   | 1.2D+1L+1E  | 117.107961 | 1.2D+1L+1E | 94.174596  |
| 2002  | 1   | 1.2D+1L+1E  | 117.077934 | 1.2D+1L+1E | 94.149661  |
| 3036  | 11  | 1.2D+1L+1E  | 140.652985 | 1.2D+1L+1E | 112.77394  |
| 3037  | 11  | 1.2D+1L+1E  | 140.638698 | 1.2D+1L+1E | 112.760258 |
| 3050  | 11  | 1.2D+1L+1E  | 140.615873 | 1.2D+1L+1E | 112.739959 |
| 3051  | 11  | 1.2D+1L+1E  | 140.588105 | 1.2D+1L+1E | 112.71524  |
| 3064  | 11  | 1.2D+1L+1E  | 140.57255  | 1.2D+1L+1E | 112.700671 |
| 3065  | 11  | 1.2D+1L+1E  | 140.57068  | 1.2D+1L+1E | 112.700509 |
| 3078  | 11  | 1.2D+1L+1E  | 140.665299 | 1.2D+1L+1E | 112.697991 |

Table 4.13 Comparison of DDBD vs Force Based Displacement

## **CHAPTER 5**

### **CONCLUSION**

The conclusion which is drawn by the results of this Design application on an apartment building is as follows:

1. Result of Base Shear of design using Direct Displacement based design is 3825840 kg, whilst the result for Strength based design is 4731599.688 kg, which means DDBD is 19.14% smaller than that of the standard Force Based Design method.
2. Based on the new base shear value, the Response Spectrum data on SAP2000 is then altered to give results necessary for reinforcement calculations for DDBD. Reinforcement for DDBD structure was calculated following the existing design code SNI (Standard Nasional Indonesia).

It is seen that DDBD reinforcement averages 12% less than that of Force Based design on the longitudinal reinforcements and 7% on transversal.

The difference in Column reinforcement however is miniscule to the point where there are no differences between the two methods of design.

Very much like the column, there is no difference in longitudinal shearwall reinforcement for both design methods. The difference between the transversal reinforcement however averages 12.8% less for DDBD compared to that of the Strength Based Design.

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## EXAMPLE OF BEAM REINFORCEMENT CALCULATION

### **Beam Data**

#### **Beam 2-1 A FB Level 1**

Dimension : 400/600 mm

Length : 707 cm

Decking : 40 mm

Diameter : 18 mm

Trans. Diameter: 10 mm

Fy : 390 MPa

F'c : 50 MPa

$$\rho_b = \frac{0,85 \cdot f'c}{f_y} \cdot \beta_1 \cdot \left( \frac{600}{600 + f_y} \right) = 0.046$$

$$\rho_{\min} = \frac{\sqrt{f'c}}{4 \cdot f_y} = 0.0045$$

$$\rho_{\max} = 0.75 \times \rho_b = 0.75 \times 0.046 = 0.034$$

$$m = \frac{f_y}{0,85 \cdot f'c} = \frac{400}{0,85 \cdot 30} = 9.176$$

For Longitudinal Beam Reinforcement;

$$R_n = \frac{M_u}{\phi \cdot b \cdot d^2}$$

$$P_{\text{need}} = \frac{1}{m} \left( 1 - \sqrt{1 - \frac{2 \cdot m \cdot R_n}{f_y}} \right)$$

$$A_{s_{\text{need}}} = \rho \cdot b \cdot d$$

| BEAM | LOCATION | MU       | MN need  | RN   | RO NEED | RO USE | AS NEED | ELEMENT | REINFORCEMENT | DISTANCE |               | NUMBER |
|------|----------|----------|----------|------|---------|--------|---------|---------|---------------|----------|---------------|--------|
| m    |          | Kgm      | Kgm      | N/mm |         |        | mm2     | NEED    | MENT          | mm       |               | LAYER  |
| 7.07 | tumpuan  | 12857.61 | 16072.01 | 1.37 | 0.0036  | 0.0036 | 774.46  | 3.04    | <b>4</b>      | 76.00    | <b>76.00</b>  | 1      |
| 7.07 |          | 573.86   | 717.33   | 0.06 | 0.0002  | 0.0002 | 34.02   | 0.13    | <b>2</b>      | 264.00   | <b>264.00</b> | 1      |
| 7.07 | lapangan | 5034.68  | 6293.35  | 0.54 | 0.0014  | 0.0014 | 300.19  | 1.18    | <b>2</b>      | 264.00   | <b>264.00</b> | 1      |
| 7.07 | tumpuan  | 12893.60 | 16117.00 | 1.38 | 0.0036  | 0.0036 | 776.66  | 3.05    | <b>4</b>      | 76.00    | <b>76.00</b>  | 1      |
| 7.07 |          | 596.10   | 745.13   | 0.06 | 0.0002  | 0.0002 | 35.34   | 0.14    | <b>2</b>      | 264.00   | <b>264.00</b> | 1      |

For Transversal Beam Reinforcement;

Wu for Plate : Dead Load / 1 m= 534 kg/m<sup>2</sup>

: Live Load / 1m = 250 kg/m<sup>2</sup>

Wu : 1.2 D + 1.0 L = (1.2x534x7.07) + (1x250x7.07)  
= 6989.156 kg/m

| BEAM | POSITION      | Wu       | Vekn       | Vekn        |
|------|---------------|----------|------------|-------------|
| m    |               | kg/m     | kg         | kg          |
| 7.07 | tumpuan kiri  | 6989.156 | 28693.7772 | -16526.0621 |
|      |               |          |            |             |
|      | tumpuan kanan | 6989.156 | 28693.7772 | -16526.0621 |
|      |               |          |            |             |

According to SNI 03 – 2847 – 2013 ps. 21.3

Vc is assumed as 0 , if:

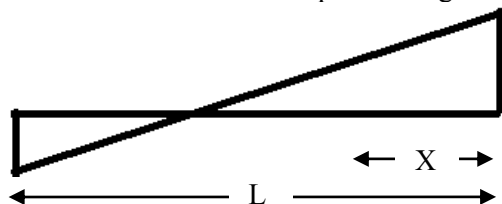
1.  $M_{pr} > 0.5 \times \text{Total shear combination of quake and gravity (Vekn)}$
2.  $\text{Axial} < 0.2 \times A_g \times f_c'$

Since in this instance  $VC \neq 0$  ;  $V_s = \frac{V_s}{\phi} - \frac{\sqrt{f'_c}}{6} \times b \times d$   
 $V_s = 251204 \text{ kg}$

Transversal Reinforcement at plastic hinge:

| BEAM | Position      | Vs         | Av     | s         | SNI Requirements |           |            | S chosen | S      | Control |
|------|---------------|------------|--------|-----------|------------------|-----------|------------|----------|--------|---------|
| m    |               | kg         | 2D12   | mm        | d/4 (mm)         | 8* D (mm) | 24* Φ (mm) | 300 mm   | mm     | Vsmx>Vs |
| 7.07 | tumpuan kiri  | 9974.09834 | 157.08 | 332.28298 | 135.25           | 144       | 240        | 300      | 135.25 | 130ok   |
|      |               |            |        |           |                  |           |            |          |        |         |
|      | tumpuan kanan | 9974.09834 | 157.08 | 332.28298 | 135.25           | 144       | 240        | 300      | 135.25 | 130ok   |
|      |               |            |        |           |                  |           |            |          |        |         |

Transversal Reinforcement outside of plastic hinge:



|              |   |                  |              |
|--------------|---|------------------|--------------|
| x            | = | <u>28693.777</u> |              |
| 6.62 - x     |   | 16526.062        |              |
| 16526.0621 x | = | 189952.81        | - 28693.78 x |
| 45219.8393 x | = | 189952.81        |              |

Finding  $V_u$  at 1200 mm from edge of beam:

|      |   |                |   |                 |    |
|------|---|----------------|---|-----------------|----|
|      |   | <u>4.20065</u> | = | <u>28693.78</u> |    |
|      |   | 3.00065        |   | x               |    |
| 4.20 | x |                | = | 86100.04        |    |
|      | x |                | = | 20496.83        | kg |

Therefore;

| BEAM | Position | Vs         | Av         | s         | Req.    | s chosen | s   | number on used |
|------|----------|------------|------------|-----------|---------|----------|-----|----------------|
| m    |          | kg         | 2D12       | mm        | d/2 (mm | mm       | mm  | buah           |
| 7.07 | lapangan | 955.167956 | 157.079633 | 3469.7805 | 270.5   | 270.5    | 270 | 16.815         |
|      |          |            |            |           |         |          |     | 17             |

# DDBD SAP Output

**Table: Base Reactions, Part 1 of 3**

| Table: Base Reactions, Part 1 of 3 |             |          |                 |                 |                 |                    |                    |                    |
|------------------------------------|-------------|----------|-----------------|-----------------|-----------------|--------------------|--------------------|--------------------|
| OutputCase                         | CaseType    | StepType | GlobalFX<br>Kgf | GlobalFY<br>Kgf | GlobalFZ<br>Kgf | GlobalMX<br>Kgf-mm | GlobalMY<br>Kgf-mm | GlobalMZ<br>Kgf-mm |
| 1.4D                               | Combination |          | -4.006E-08      | -9.393E-09      | 82705213.84     | -1.952E+12         | -3.596E+10         | -4.293E-03         |
| 1.2D+1.6L                          | Combination |          | -7.079E-08      | -4.817E-08      | 85009923.90     | -2.012E+12         | -3.672E+10         | -6.637E-03         |
| 1.2D+1L+1E                         | Combination | Max      | 3336698.03      | 1184731.21      | 79731087.39     | -1.828E+12         | 1.229E+11          | 7.704E+10          |
| 1.2D+1L+1E                         | Combination | Min      | -3336698.03     | -1184731.21     | 79698954.95     | -1.941E+12         | -1.919E+11         | -7.704E+10         |
| 0.9D+1E                            | Combination | Max      | 3336698.03      | 1184731.21      | 53183703.69     | -1.198E+12         | 1.343E+11          | 7.704E+10          |
| 0.9D+1E                            | Combination | Min      | -3336698.03     | -1184731.21     | 53151571.25     | -1.311E+12         | -1.805E+11         | -7.704E+10         |
| 1.2D+1L+1E<br>y                    | Combination | Max      | 861260.82       | 3352073.16      | 79731323.17     | -1.724E+12         | 5878132844         | 2.045E+10          |
| 1.2D+1L+1E<br>y                    | Combination | Min      | -861260.82      | -3352073.16     | 79698719.17     | -2.045E+12         | -7.489E+10         | -2.045E+10         |
| 0.9D+1Ey                           | Combination | Max      | 861260.82       | 3352073.16      | 53183939.48     | -1.094E+12         | 1.727E+10          | 2.045E+10          |
| 0.9D+1Ey                           | Combination | Min      | -861260.82      | -3352073.16     | 53151335.47     | -1.415E+12         | -6.350E+10         | -2.045E+10         |
| 1D+0.5L                            | Combination |          | -4.001E-08      | -1.925E-08      | 63487571.68     | -1.500E+12         | -2.753E+10         | -3.991E-03         |

**Table: Base Reactions, Part 2 of 3**

| Table: Base Reactions, Part 2 of 3 |          |               |               |               |                       |                       |                       |                       |
|------------------------------------|----------|---------------|---------------|---------------|-----------------------|-----------------------|-----------------------|-----------------------|
| OutputCase                         | StepType | GlobalX<br>mm | GlobalY<br>mm | GlobalZ<br>mm | XCentroidF<br>X<br>mm | YCentroidF<br>X<br>mm | ZCentroidF<br>X<br>mm | XCentroidF<br>Y<br>mm |
| 1.4D                               |          | 0.00          | 0.00          | 0.00          | 3.863E+17             | -1.407E+16            | 0.00                  | 1.772E+16             |
| 1.2D+1.6L                          |          | 0.00          | 0.00          | 0.00          | 3.806E+17             | -1.480E+16            | 0.00                  | 1.268E+16             |
| 1.2D+1L+1E                         | Max      | 0.00          | 0.00          | 0.00          | 3.620E+17             | -1.377E+16            | 0.00                  | 1.362E+16             |
| 1.2D+1L+1E                         | Min      | 0.00          | 0.00          | 0.00          | 3.620E+17             | -1.377E+16            | 0.00                  | 1.362E+16             |
| 0.9D+1E                            | Max      | 0.00          | 0.00          | 0.00          | 2.484E+17             | -9.045E+15            | 0.00                  | 1.139E+16             |
| 0.9D+1E                            | Min      | 0.00          | 0.00          | 0.00          | 2.484E+17             | -9.045E+15            | 0.00                  | 1.139E+16             |
| 1.2D+1L+1E<br>y                    | Max      | 0.00          | 0.00          | 0.00          | 3.620E+17             | -1.377E+16            | 0.00                  | 1.362E+16             |
| 1.2D+1L+1E<br>y                    | Min      | 0.00          | 0.00          | 0.00          | 3.620E+17             | -1.377E+16            | 0.00                  | 1.362E+16             |
| 0.9D+1Ey                           | Max      | 0.00          | 0.00          | 0.00          | 2.484E+17             | -9.045E+15            | 0.00                  | 1.139E+16             |
| 0.9D+1Ey                           | Min      | 0.00          | 0.00          | 0.00          | 2.484E+17             | -9.045E+15            | 0.00                  | 1.139E+16             |
| 1D+0.5L                            |          | 0.00          | 0.00          | 0.00          | 2.914E+17             | -1.091E+16            | 0.00                  | 1.187E+16             |

**Table: Base Reactions, Part 3 of 3**

| Table: Base Reactions, Part 3 of 3 |          |                       |                       |                       |                       |                   |
|------------------------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------|
| OutputCase                         | StepType | YCentroidF<br>Y<br>mm | ZCentroidF<br>Y<br>mm | XCentroidF<br>Z<br>mm | YCentroidF<br>Z<br>mm | ZCentroidFZ<br>mm |
| 1.4D                               |          | -5.632E+17            | 0.00                  | 1192.17               | -66570.67             | 0.00              |
| 1.2D+1.6L                          |          | -4.554E+17            | 0.00                  | 1686.95               | -95441.90             | 0.00              |
| 1.2D+1L+1E                         | Max      | -4.657E+17            | 0.00                  | 4.644E+11             | 1.601E+11             | 0.00              |
| 1.2D+1L+1E                         | Min      | -4.657E+17            | 0.00                  | -4.644E+11            | -1.601E+11            | 0.00              |
| 0.9D+1E                            | Max      | -3.621E+17            | 0.00                  | 4.644E+11             | 1.601E+11             | 0.00              |
| 0.9D+1E                            | Min      | -3.621E+17            | 0.00                  | -4.644E+11            | -1.601E+11            | 0.00              |
| 1.2D+1L+1E<br>y                    | Max      | -4.657E+17            | 0.00                  | 1.210E+11             | 4.502E+11             | 0.00              |

Table: Base Reactions, Part 3 of 3

| OutputCase      | StepType | YCentroidF<br>Y<br>mm | ZCentroidF<br>Y<br>mm | XCentroidF<br>Z<br>mm | YCentroidF<br>Z<br>mm | ZCentroidFZ<br>mm |
|-----------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------|
| 1.2D+1L+1E<br>y | Min      | -4.657E+17            | 0.00                  | -1.210E+11            | -4.502E+11            | 0.00              |
| 0.9D+1Ey        | Max      | -3.621E+17            | 0.00                  | 1.210E+11             | 4.502E+11             | 0.00              |
| 0.9D+1Ey        | Min      | -3.621E+17            | 0.00                  | -1.210E+11            | -4.502E+11            | 0.00              |
| 1D+0.5L         |          | -3.937E+17            | 0.00                  | 1059.39               | -59544.64             | 0.00              |

# DDBD SAP Output

Table: Joint Displacements, Part 1 of 2

| Table: Joint Displacements, Part 1 of 2 |            |             |          |          |          |          |               |               |
|---|------------|-------------|----------|----------|----------|----------|---------------|---------------|
| Joint                                   | OutputCase | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
| 1                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 1                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 1                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 2                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 2                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 3                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 3                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 4                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|   | y          |             |          |          |          |          |               |               |
| 4                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|----------|----------|----------|---------------|---------------|
| 4     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 5     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 5     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 6     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 6     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 7     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 7     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 8     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 8     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|----------|----------|----------|---------------|---------------|
| 9     | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|----------|----------|----------|---------------|---------------|
| 13    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 17    | 0.9D+1Ey        | Combination | Max      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 17    | 0.9D+1Ey        | Combination | Min      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 17    | 1D+0.5L         | Combination |          | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.4D            | Combination |          | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1.6L       | Combination |          | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E      | Combination | Max      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E      | Combination | Min      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1E         | Combination | Max      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1E         | Combination | Min      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E      | Combination | Max      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1Ey        | Combination | Max      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1Ey        | Combination | Min      | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1D+0.5L         | Combination |          | 0.000000   | 0.000000   | 0.000000  | 0.000000      | 0.000000      |
| 524   | 1.4D            | Combination |          | 0.498433   | -0.013382  | -2.011444 | 2.053E-06     | 0.000018      |
| 524   | 1.2D+1.6L       | Combination |          | 0.665980   | 0.003402   | -2.057965 | 9.207E-07     | 0.000025      |
| 524   | 1.2D+1L+1E      | Combination | Max      | 30.001669  | 12.004866  | -1.525705 | 0.000569      | 0.001350      |
| 524   | 1.2D+1L+1E      | Combination | Min      | -28.848773 | -12.009216 | -2.339822 | -0.000566     | -0.001307     |
| 524   | 0.9D+1E         | Combination | Max      | 29.745643  | 11.998438  | -0.886013 | 0.000569      | 0.001340      |
| 524   | 0.9D+1E         | Combination | Min      | -29.104800 | -12.015644 | -1.700130 | -0.000566     | -0.001317     |
| 524   | 1.2D+1L+1E      | Combination | Max      | 8.280061   | 21.624611  | -1.459712 | 0.001060      | 0.000367      |
| 524   | 1.2D+1L+1E<br>y | Combination | Min      | -7.127164  | -21.628961 | -2.405815 | -0.001057     | -0.000324     |
| 524   | 0.9D+1Ey        | Combination | Max      | 8.024034   | 21.618183  | -0.820020 | 0.001060      | 0.000357      |
| 524   | 0.9D+1Ey        | Combination | Min      | -7.383191  | -21.635389 | -1.766123 | -0.001057     | -0.000334     |
| 524   | 1D+0.5L         | Combination |          | 0.430634   | -0.004911  | -1.541080 | 1.204E-06     | 0.000016      |
| 590   | 1.4D            | Combination |          | 0.491049   | -0.089326  | -0.680471 | 2.641E-06     | 0.000018      |
| 590   | 1.2D+1.6L       | Combination |          | 0.653658   | -0.105620  | -0.734729 | 4.677E-06     | 0.000025      |
| 590   | 1.2D+1L+1E      | Combination | Max      | 33.922159  | 10.527519  | -0.643941 | 0.000429      | 0.001321      |
| 590   | 1.2D+1L+1E      | Combination | Min      | -32.789412 | -10.716969 | -0.711916 | -0.000422     | -0.001279     |
| 590   | 0.9D+1E         | Combination | Max      | 33.671460  | 10.564820  | -0.403458 | 0.000427      | 0.001311      |
| 590   | 0.9D+1E         | Combination | Min      | -33.040111 | -10.679668 | -0.471433 | -0.000424     | -0.001288     |
| 590   | 1.2D+1L+1E      | Combination | Max      | 9.202571   | 24.643366  | -0.598427 | 0.001015      | 0.000357      |
| 590   | 1.2D+1L+1E<br>y | Combination | Min      | -8.069824  | -24.832815 | -0.757430 | -0.001007     | -0.000315     |
| 590   | 0.9D+1Ey        | Combination | Max      | 8.951872   | 24.680666  | -0.357944 | 0.001013      | 0.000347      |
| 590   | 0.9D+1Ey        | Combination | Min      | -8.320523  | -24.795515 | -0.516947 | -0.001009     | -0.000324     |
| 590   | 1D+0.5L         | Combination |          | 0.423487   | -0.072884  | -0.533384 | 2.641E-06     | 0.000016      |
| 1572  | 1.4D            | Combination |          | 1.824072   | -1.623364  | -3.230422 | 0.000048      | 7.285E-06     |
| 1572  | 1.2D+1.6L       | Combination |          | 2.510555   | -2.077070  | -3.407406 | 0.000060      | 0.000011      |
| 1572  | 1.2D+1L+1E      | Combination | Max      | 94.741057  | 28.101341  | -1.463982 | 0.000413      | 0.000928      |
| 1572  | 1.2D+1L+1E      | Combination | Min      | -90.430245 | -31.741270 | -4.871975 | -0.000307     | -0.000910     |
| 1572  | 0.9D+1E         | Combination | Max      | 93.758269  | 28.877715  | -0.372703 | 0.000391      | 0.000923      |
| 1572  | 0.9D+1E         | Combination | Min      | -91.413033 | -30.964897 | -3.780696 | -0.000329     | -0.000914     |
| 1572  | 1.2D+1L+1E      | Combination | Max      | 26.071235  | 79.390524  | -1.594771 | 0.001035      | 0.000253      |
| 1572  | 1.2D+1L+1E<br>y | Combination | Min      | -21.760423 | -83.030453 | -4.741187 | -0.000930     | -0.000235     |
| 1572  | 0.9D+1Ey        | Combination | Max      | 25.088447  | 80.166897  | -0.503491 | 0.001013      | 0.000249      |
| 1572  | 0.9D+1Ey        | Combination | Min      | -22.743211 | -82.254079 | -3.649908 | -0.000952     | -0.000240     |
| 1572  | 1D+0.5L         | Combination |          | 1.598867   | -1.373800  | -2.506967 | 0.000040      | 6.702E-06     |
| 1594  | 1.4D            | Combination |          | -0.002849  | 0.028984   | -0.166416 | -6.663E-06    | 0.000017      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1594  | 1.2D+1.6L       | Combination |          | -0.002689 | 0.025667  | -0.157167 | -5.409E-06    | 0.000024      |
| 1594  | 1.2D+1L+1E      | Combination | Max      | 0.693423  | 0.294088  | 0.191704  | 0.000139      | 0.000428      |
| 1594  | 1.2D+1L+1E      | Combination | Min      | -0.698615 | -0.243371 | -0.495145 | -0.000150     | -0.000387     |
| 1594  | 0.9D+1E         | Combination | Max      | 0.694187  | 0.287362  | 0.236443  | 0.000140      | 0.000418      |
| 1594  | 0.9D+1E         | Combination | Min      | -0.697850 | -0.250097 | -0.450406 | -0.000148     | -0.000397     |
| 1594  | 1.2D+1L+1E<br>y | Combination | Max      | 0.179406  | 0.469169  | 0.417577  | 0.000219      | 0.000127      |
| 1594  | 1.2D+1L+1E<br>y | Combination | Min      | -0.184598 | -0.418452 | -0.721018 | -0.000230     | -0.000086     |
| 1594  | 0.9D+1Ey        | Combination | Max      | 0.180171  | 0.462443  | 0.462316  | 0.000220      | 0.000117      |
| 1594  | 0.9D+1Ey        | Combination | Min      | -0.183833 | -0.425178 | -0.676279 | -0.000228     | -0.000096     |
| 1594  | 1D+0.5L         | Combination |          | -0.002112 | 0.020960  | -0.123408 | -4.665E-06    | 0.000015      |
| 1595  | 1.4D            | Combination |          | -0.039068 | -0.037559 | -0.172011 | 8.346E-06     | -0.000014     |
| 1595  | 1.2D+1.6L       | Combination |          | -0.037628 | -0.037893 | -0.166321 | 9.560E-06     | -0.000013     |
| 1595  | 1.2D+1L+1E      | Combination | Max      | 0.581834  | 0.252680  | 0.338637  | 0.000170      | 0.000342      |
| 1595  | 1.2D+1L+1E      | Combination | Min      | -0.653985 | -0.324191 | -0.657116 | -0.000152     | -0.000368     |
| 1595  | 0.9D+1E         | Combination | Max      | 0.592795  | 0.264290  | 0.387298  | 0.000166      | 0.000346      |
| 1595  | 0.9D+1E         | Combination | Min      | -0.643025 | -0.312580 | -0.608455 | -0.000156     | -0.000364     |
| 1595  | 1.2D+1L+1E<br>y | Combination | Max      | 0.131217  | 0.362450  | 0.171596  | 0.000223      | 0.000083      |
| 1595  | 1.2D+1L+1E<br>y | Combination | Min      | -0.203367 | -0.433961 | -0.490075 | -0.000205     | -0.000109     |
| 1595  | 0.9D+1Ey        | Combination | Max      | 0.142177  | 0.374061  | 0.220257  | 0.000220      | 0.000087      |
| 1595  | 0.9D+1Ey        | Combination | Min      | -0.192407 | -0.422351 | -0.441414 | -0.000209     | -0.000105     |
| 1595  | 1D+0.5L         | Combination |          | -0.029200 | -0.028609 | -0.128766 | 6.714E-06     | -0.000011     |
| 1596  | 1.4D            | Combination |          | 0.030469  | 0.006551  | -0.173249 | -0.000023     | 0.000014      |
| 1596  | 1.2D+1.6L       | Combination |          | 0.030064  | 0.004372  | -0.169658 | -0.000032     | 0.000015      |
| 1596  | 1.2D+1L+1E      | Combination | Max      | 0.734093  | 0.227861  | 0.737500  | 0.000106      | 0.000397      |
| 1596  | 1.2D+1L+1E      | Combination | Min      | -0.676927 | -0.218184 | -1.060946 | -0.000161     | -0.000370     |
| 1596  | 0.9D+1E         | Combination | Max      | 0.725097  | 0.227234  | 0.787849  | 0.000119      | 0.000393      |
| 1596  | 0.9D+1E         | Combination | Min      | -0.685923 | -0.218811 | -1.010597 | -0.000148     | -0.000374     |
| 1596  | 1.2D+1L+1E<br>y | Combination | Max      | 0.221873  | 0.420258  | 0.185608  | 0.000221      | 0.000114      |
| 1596  | 1.2D+1L+1E<br>y | Combination | Min      | -0.164707 | -0.410582 | -0.509055 | -0.000276     | -0.000087     |
| 1596  | 0.9D+1Ey        | Combination | Max      | 0.212877  | 0.419631  | 0.235957  | 0.000234      | 0.000110      |
| 1596  | 0.9D+1Ey        | Combination | Min      | -0.173703 | -0.411209 | -0.458706 | -0.000263     | -0.000091     |
| 1596  | 1D+0.5L         | Combination |          | 0.022997  | 0.004291  | -0.130361 | -0.000020     | 0.000011      |
| 1597  | 1.4D            | Combination |          | -0.019566 | 0.034249  | -0.203108 | -6.994E-06    | -3.927E-06    |
| 1597  | 1.2D+1.6L       | Combination |          | -0.019495 | 0.033789  | -0.204415 | -6.574E-06    | -4.024E-06    |
| 1597  | 1.2D+1L+1E      | Combination | Max      | 0.654890  | 0.190681  | 0.071240  | 0.000074      | 0.000403      |
| 1597  | 1.2D+1L+1E      | Combination | Min      | -0.691837 | -0.126429 | -0.457329 | -0.000087     | -0.000411     |
| 1597  | 0.9D+1E         | Combination | Max      | 0.660785  | 0.180572  | 0.133715  | 0.000076      | 0.000405      |
| 1597  | 0.9D+1E         | Combination | Min      | -0.685942 | -0.136538 | -0.394854 | -0.000085     | -0.000410     |
| 1597  | 1.2D+1L+1E<br>y | Combination | Max      | 0.161274  | 0.473676  | 0.243625  | 0.000218      | 0.000103      |
| 1597  | 1.2D+1L+1E<br>y | Combination | Min      | -0.198220 | -0.409424 | -0.629714 | -0.000231     | -0.000111     |
| 1597  | 0.9D+1Ey        | Combination | Max      | 0.167169  | 0.463567  | 0.306100  | 0.000220      | 0.000104      |
| 1597  | 0.9D+1Ey        | Combination | Min      | -0.192325 | -0.419533 | -0.567239 | -0.000229     | -0.000109     |
| 1597  | 1D+0.5L         | Combination |          | -0.014827 | 0.025849  | -0.154553 | -5.177E-06    | -3.011E-06    |
| 1598  | 1.4D            | Combination |          | 0.019425  | 0.001511  | -0.203935 | -0.000040     | 3.986E-06     |
| 1598  | 1.2D+1.6L       | Combination |          | 0.019849  | 0.000778  | -0.206193 | -0.000050     | 4.600E-06     |
| 1598  | 1.2D+1L+1E      | Combination | Max      | 0.730567  | 0.148039  | 0.445282  | 0.000030      | 0.000412      |
| 1598  | 1.2D+1L+1E      | Combination | Min      | -0.693268 | -0.146095 | -0.834123 | -0.000118     | -0.000403     |
| 1598  | 0.9D+1E         | Combination | Max      | 0.724404  | 0.148038  | 0.508602  | 0.000049      | 0.000410      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1598  | 0.9D+1E         | Combination | Min      | -0.699430 | -0.146096 | -0.770804 | -0.000099     | -0.000405     |
| 1598  | 1.2D+1L+1E<br>y | Combination | Max      | 0.207151  | 0.418434  | 0.229070  | 0.000163      | 0.000110      |
| 1598  | 1.2D+1L+1E<br>y | Combination | Min      | -0.169853 | -0.416490 | -0.617911 | -0.000251     | -0.000102     |
| 1598  | 0.9D+1Ey        | Combination | Max      | 0.200989  | 0.418433  | 0.292389  | 0.000182      | 0.000109      |
| 1598  | 0.9D+1Ey        | Combination | Min      | -0.176015 | -0.416491 | -0.554591 | -0.000233     | -0.000103     |
| 1598  | 1D+0.5L         | Combination |          | 0.014875  | 0.000918  | -0.155478 | -0.000033     | 3.217E-06     |
| 1599  | 1.4D            | Combination |          | -0.019863 | -0.035590 | -0.208385 | 4.673E-06     | -3.501E-06    |
| 1599  | 1.2D+1.6L       | Combination |          | -0.019692 | -0.036757 | -0.211349 | 4.654E-06     | -3.299E-06    |
| 1599  | 1.2D+1L+1E      | Combination | Max      | 0.637139  | 0.130588  | 0.091960  | 0.000090      | 0.000388      |
| 1599  | 1.2D+1L+1E      | Combination | Min      | -0.674523 | -0.199413 | -0.490108 | -0.000081     | -0.000395     |
| 1599  | 0.9D+1E         | Combination | Max      | 0.643062  | 0.142122  | 0.157072  | 0.000089      | 0.000389      |
| 1599  | 0.9D+1E         | Combination | Min      | -0.668600 | -0.187880 | -0.424996 | -0.000083     | -0.000394     |
| 1599  | 1.2D+1L+1E<br>y | Combination | Max      | 0.152884  | 0.406090  | 0.226847  | 0.000230      | 0.000099      |
| 1599  | 1.2D+1L+1E<br>y | Combination | Min      | -0.190268 | -0.474916 | -0.624996 | -0.000221     | -0.000105     |
| 1599  | 0.9D+1Ey        | Combination | Max      | 0.158807  | 0.417624  | 0.291960  | 0.000229      | 0.000099      |
| 1599  | 0.9D+1Ey        | Combination | Min      | -0.184345 | -0.463382 | -0.559883 | -0.000223     | -0.000104     |
| 1599  | 1D+0.5L         | Combination |          | -0.015021 | -0.027375 | -0.159076 | 3.541E-06     | -2.594E-06    |
| 1600  | 1.4D            | Combination |          | 0.016778  | -0.004813 | -0.209940 | 0.000038      | 5.168E-06     |
| 1600  | 1.2D+1.6L       | Combination |          | 0.017588  | -0.005490 | -0.214253 | 0.000049      | 6.318E-06     |
| 1600  | 1.2D+1L+1E      | Combination | Max      | 0.697720  | 0.143477  | 0.373769  | 0.000118      | 0.000390      |
| 1600  | 1.2D+1L+1E      | Combination | Min      | -0.664949 | -0.153434 | -0.776547 | -0.000033     | -0.000379     |
| 1600  | 0.9D+1E         | Combination | Max      | 0.692121  | 0.145361  | 0.440196  | 0.000100      | 0.000388      |
| 1600  | 0.9D+1E         | Combination | Min      | -0.670549 | -0.151550 | -0.710119 | -0.000051     | -0.000381     |
| 1600  | 1.2D+1L+1E<br>y | Combination | Max      | 0.197112  | 0.415718  | 0.213663  | 0.000255      | 0.000105      |
| 1600  | 1.2D+1L+1E<br>y | Combination | Min      | -0.164341 | -0.425675 | -0.616441 | -0.000170     | -0.000094     |
| 1600  | 0.9D+1Ey        | Combination | Max      | 0.191512  | 0.417602  | 0.280090  | 0.000236      | 0.000103      |
| 1600  | 0.9D+1Ey        | Combination | Min      | -0.169940 | -0.423791 | -0.550013 | -0.000188     | -0.000096     |
| 1600  | 1D+0.5L         | Combination |          | 0.012986  | -0.003864 | -0.160677 | 0.000032      | 4.281E-06     |
| 1601  | 1.4D            | Combination |          | 0.006621  | 0.024995  | -0.199801 | -6.326E-06    | -2.299E-07    |
| 1601  | 1.2D+1.6L       | Combination |          | 0.007314  | 0.025826  | -0.203330 | -6.756E-06    | -1.214E-06    |
| 1601  | 1.2D+1L+1E      | Combination | Max      | 0.696850  | 0.330362  | 0.162573  | 0.000154      | 0.000393      |
| 1601  | 1.2D+1L+1E      | Combination | Min      | -0.683452 | -0.282011 | -0.545180 | -0.000167     | -0.000395     |
| 1601  | 0.9D+1E         | Combination | Max      | 0.694407  | 0.322255  | 0.225433  | 0.000156      | 0.000394      |
| 1601  | 0.9D+1E         | Combination | Min      | -0.685894 | -0.290119 | -0.482320 | -0.000164     | -0.000394     |
| 1601  | 1.2D+1L+1E<br>y | Combination | Max      | 0.186042  | 0.492535  | 0.380917  | 0.000228      | 0.000102      |
| 1601  | 1.2D+1L+1E<br>y | Combination | Min      | -0.172644 | -0.444184 | -0.763524 | -0.000240     | -0.000103     |
| 1601  | 0.9D+1Ey        | Combination | Max      | 0.183599  | 0.484428  | 0.443777  | 0.000230      | 0.000102      |
| 1601  | 0.9D+1Ey        | Combination | Min      | -0.175087 | -0.452292 | -0.700664 | -0.000238     | -0.000103     |
| 1601  | 1D+0.5L         | Combination |          | 0.005241  | 0.019229  | -0.152738 | -4.935E-06    | -4.821E-07    |
| 1602  | 1.4D            | Combination |          | 0.046139  | -0.038649 | -0.202161 | 8.691E-06     | 0.000021      |
| 1602  | 1.2D+1.6L       | Combination |          | 0.047341  | -0.038627 | -0.203860 | 9.195E-06     | 0.000022      |
| 1602  | 1.2D+1L+1E      | Combination | Max      | 0.663358  | 0.286473  | 0.310169  | 0.000187      | 0.000376      |
| 1602  | 1.2D+1L+1E      | Combination | Min      | -0.574522 | -0.359603 | -0.694955 | -0.000170     | -0.000334     |
| 1602  | 0.9D+1E         | Combination | Max      | 0.648601  | 0.298192  | 0.372601  | 0.000184      | 0.000369      |
| 1602  | 0.9D+1E         | Combination | Min      | -0.589279 | -0.347884 | -0.632523 | -0.000173     | -0.000341     |
| 1602  | 1.2D+1L+1E<br>y | Combination | Max      | 0.216424  | 0.406674  | 0.191967  | 0.000240      | 0.000119      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1602  | 1.2D+1L+1E<br>y | Combination | Min      | -0.127587 | -0.479804 | -0.576753 | -0.000223     | -0.000078     |
| 1602  | 0.9D+1Ey        | Combination | Max      | 0.201666  | 0.418394  | 0.254399  | 0.000237      | 0.000112      |
| 1602  | 0.9D+1Ey        | Combination | Min      | -0.142345 | -0.468085 | -0.514321 | -0.000226     | -0.000085     |
| 1602  | 1D+0.5L         | Combination |          | 0.035392  | -0.029325 | -0.153957 | 6.753E-06     | 0.000016      |
| 1603  | 1.4D            | Combination |          | 0.042830  | -0.013656 | -0.214638 | 0.000022      | 0.000022      |
| 1603  | 1.2D+1.6L       | Combination |          | 0.045460  | -0.014275 | -0.220549 | 0.000029      | 0.000024      |
| 1603  | 1.2D+1L+1E      | Combination | Max      | 0.685718  | 0.186637  | 0.674166  | 0.000141      | 0.000367      |
| 1603  | 1.2D+1L+1E      | Combination | Min      | -0.601359 | -0.213260 | -1.087834 | -0.000091     | -0.000324     |
| 1603  | 0.9D+1E         | Combination | Max      | 0.671072  | 0.191170  | 0.743019  | 0.000130      | 0.000359      |
| 1603  | 0.9D+1E         | Combination | Min      | -0.616005 | -0.208728 | -1.018982 | -0.000102     | -0.000331     |
| 1603  | 1.2D+1L+1E<br>y | Combination | Max      | 0.218486  | 0.406154  | 0.131528  | 0.000257      | 0.000112      |
| 1603  | 1.2D+1L+1E<br>y | Combination | Min      | -0.134128 | -0.432776 | -0.545196 | -0.000206     | -0.000069     |
| 1603  | 0.9D+1Ey        | Combination | Max      | 0.203840  | 0.410686  | 0.200380  | 0.000246      | 0.000104      |
| 1603  | 0.9D+1Ey        | Combination | Min      | -0.148774 | -0.428244 | -0.476343 | -0.000217     | -0.000077     |
| 1603  | 1D+0.5L         | Combination |          | 0.033327  | -0.010557 | -0.164742 | 0.000019      | 0.000017      |
| 1604  | 1.4D            | Combination |          | -0.039843 | 0.039582  | -0.207326 | -4.955E-06    | -0.000018     |
| 1604  | 1.2D+1.6L       | Combination |          | -0.038760 | 0.039894  | -0.209175 | -4.347E-06    | -0.000018     |
| 1604  | 1.2D+1L+1E      | Combination | Max      | 0.500072  | 0.254910  | 0.154981  | 0.000115      | 0.000289      |
| 1604  | 1.2D+1L+1E      | Combination | Min      | -0.574135 | -0.179596 | -0.549730 | -0.000123     | -0.000322     |
| 1604  | 0.9D+1E         | Combination | Max      | 0.511490  | 0.242699  | 0.219075  | 0.000116      | 0.000294      |
| 1604  | 0.9D+1E         | Combination | Min      | -0.562717 | -0.191807 | -0.485636 | -0.000122     | -0.000317     |
| 1604  | 1.2D+1L+1E<br>y | Combination | Max      | 0.109749  | 0.443363  | 0.118072  | 0.000215      | 0.000067      |
| 1604  | 1.2D+1L+1E<br>y | Combination | Min      | -0.183812 | -0.368050 | -0.512821 | -0.000223     | -0.000101     |
| 1604  | 0.9D+1Ey        | Combination | Max      | 0.121167  | 0.431152  | 0.182165  | 0.000216      | 0.000072      |
| 1604  | 0.9D+1Ey        | Combination | Min      | -0.172394 | -0.380261 | -0.448727 | -0.000222     | -0.000095     |
| 1604  | 1D+0.5L         | Combination |          | -0.029899 | 0.030138  | -0.157923 | -3.571E-06    | -0.000013     |
| 1605  | 1.4D            | Combination |          | 0.002325  | -0.037930 | -0.226297 | 0.000017      | -0.000060     |
| 1605  | 1.2D+1.6L       | Combination |          | 0.004250  | -0.039134 | -0.233438 | 0.000020      | -0.000081     |
| 1605  | 1.2D+1L+1E      | Combination | Max      | 0.587259  | 0.216125  | 0.206442  | 0.000144      | 0.000183      |
| 1605  | 1.2D+1L+1E      | Combination | Min      | -0.580452 | -0.289426 | -0.643717 | -0.000108     | -0.000323     |
| 1605  | 0.9D+1E         | Combination | Max      | 0.585350  | 0.228392  | 0.279603  | 0.000137      | 0.000214      |
| 1605  | 0.9D+1E         | Combination | Min      | -0.582361 | -0.277159 | -0.570556 | -0.000115     | -0.000291     |
| 1605  | 1.2D+1L+1E<br>y | Combination | Max      | 0.155420  | 0.419483  | 0.419446  | 0.000253      | -2.561E-06    |
| 1605  | 1.2D+1L+1E<br>y | Combination | Min      | -0.148613 | -0.492784 | -0.856720 | -0.000216     | -0.000138     |
| 1605  | 0.9D+1Ey        | Combination | Max      | 0.153511  | 0.431750  | 0.492606  | 0.000246      | 0.000029      |
| 1605  | 0.9D+1Ey        | Combination | Min      | -0.150522 | -0.480517 | -0.783560 | -0.000223     | -0.000106     |
| 1605  | 1D+0.5L         | Combination |          | 0.002366  | -0.029162 | -0.173975 | 0.000014      | -0.000052     |
| 1606  | 1.4D            | Combination |          | 0.020326  | -0.002949 | -0.194391 | -0.000039     | 6.719E-06     |
| 1606  | 1.2D+1.6L       | Combination |          | 0.022373  | -0.003562 | -0.199094 | -0.000052     | 8.357E-06     |
| 1606  | 1.2D+1L+1E      | Combination | Max      | 0.630281  | 0.143814  | 0.354781  | 0.000030      | 0.000350      |
| 1606  | 1.2D+1L+1E      | Combination | Min      | -0.589247 | -0.150163 | -0.728615 | -0.000119     | -0.000335     |
| 1606  | 0.9D+1E         | Combination | Max      | 0.622831  | 0.145092  | 0.416732  | 0.000050      | 0.000347      |
| 1606  | 0.9D+1E         | Combination | Min      | -0.596697 | -0.148884 | -0.666664 | -0.000100     | -0.000338     |
| 1606  | 1.2D+1L+1E<br>y | Combination | Max      | 0.184871  | 0.413779  | 0.243301  | 0.000166      | 0.000096      |
| 1606  | 1.2D+1L+1E<br>y | Combination | Min      | -0.143838 | -0.420128 | -0.617135 | -0.000256     | -0.000082     |
| 1606  | 0.9D+1Ey        | Combination | Max      | 0.177421  | 0.415058  | 0.305252  | 0.000186      | 0.000093      |
| 1606  | 0.9D+1Ey        | Combination | Min      | -0.151287 | -0.418849 | -0.555184 | -0.000236     | -0.000085     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1606  | 1D+0.5L    | Combination |          | 0.016066  | -0.002430 | -0.148999 | -0.000033     | 5.611E-06     |
| 1607  | 1.4D       | Combination |          | -0.018098 | 0.028303  | -0.188808 | -3.573E-06    | -1.522E-06    |
| 1607  | 1.2D+1.6L  | Combination |          | -0.016709 | 0.028099  | -0.190647 | -3.121E-06    | -4.812E-07    |
| 1607  | 1.2D+1L+1E | Combination | Max      | 0.561966  | 0.187858  | 0.069403  | 0.000079      | 0.000347      |
| 1607  | 1.2D+1L+1E | Combination | Min      | -0.594487 | -0.134540 | -0.429088 | -0.000085     | -0.000349     |
| 1607  | 0.9D+1E    | Combination | Max      | 0.566592  | 0.179394  | 0.127869  | 0.000079      | 0.000347      |
| 1607  | 0.9D+1E    | Combination | Min      | -0.589861 | -0.143004 | -0.370622 | -0.000084     | -0.000349     |
| 1607  | 1.2D+1L+1E | Combination | Max      | 0.137413  | 0.471527  | 0.266639  | 0.000221      | 0.000090      |
|       | y          |             |          |           |           |           |               |               |
| 1607  | 1.2D+1L+1E | Combination | Min      | -0.169934 | -0.418208 | -0.626325 | -0.000228     | -0.000092     |
|       | y          |             |          |           |           |           |               |               |
| 1607  | 0.9D+1Ey   | Combination | Max      | 0.142039  | 0.463063  | 0.325105  | 0.000222      | 0.000090      |
| 1607  | 0.9D+1Ey   | Combination | Min      | -0.165309 | -0.426673 | -0.567859 | -0.000227     | -0.000092     |
| 1607  | 1D+0.5L    | Combination |          | -0.013301 | 0.021416  | -0.143867 | -2.571E-06    | -8.300E-07    |
| 1608  | 1.4D       | Combination |          | -0.009939 | -0.041061 | -0.196055 | 9.550E-06     | 6.348E-07     |
| 1608  | 1.2D+1.6L  | Combination |          | -0.008391 | -0.042267 | -0.199747 | 0.000010      | 1.797E-06     |
| 1608  | 1.2D+1L+1E | Combination | Max      | 0.571319  | 0.122878  | 0.063935  | 0.000091      | 0.000346      |
| 1608  | 1.2D+1L+1E | Combination | Min      | -0.588197 | -0.202108 | -0.439654 | -0.000073     | -0.000343     |
| 1608  | 0.9D+1E    | Combination | Max      | 0.573368  | 0.136097  | 0.125759  | 0.000088      | 0.000345      |
| 1608  | 0.9D+1E    | Combination | Min      | -0.586147 | -0.188890 | -0.377830 | -0.000076     | -0.000344     |
| 1608  | 1.2D+1L+1E | Combination | Max      | 0.146284  | 0.403832  | 0.258435  | 0.000233      | 0.000092      |
|       | y          |             |          |           |           |           |               |               |
| 1608  | 1.2D+1L+1E | Combination | Min      | -0.163162 | -0.483062 | -0.634154 | -0.000215     | -0.000089     |
|       | y          |             |          |           |           |           |               |               |
| 1608  | 0.9D+1Ey   | Combination | Max      | 0.148334  | 0.417051  | 0.320259  | 0.000230      | 0.000091      |
| 1608  | 0.9D+1Ey   | Combination | Min      | -0.161113 | -0.469844 | -0.572330 | -0.000218     | -0.000090     |
| 1608  | 1D+0.5L    | Combination |          | -0.007059 | -0.031539 | -0.149946 | 7.416E-06     | 8.449E-07     |
| 1609  | 1.4D       | Combination |          | 0.024000  | -0.009591 | -0.203289 | 5.493E-06     | 7.280E-06     |
| 1609  | 1.2D+1.6L  | Combination |          | 0.026439  | -0.010205 | -0.210104 | 6.265E-06     | 9.093E-06     |
| 1609  | 1.2D+1L+1E | Combination | Max      | 0.630297  | 0.137930  | 0.340398  | 0.000090      | 0.000349      |
| 1609  | 1.2D+1L+1E | Combination | Min      | -0.581820 | -0.156852 | -0.733714 | -0.000079     | -0.000333     |
| 1609  | 0.9D+1E    | Combination | Max      | 0.621487  | 0.141225  | 0.406371  | 0.000088      | 0.000345      |
| 1609  | 0.9D+1E    | Combination | Min      | -0.590630 | -0.153557 | -0.667742 | -0.000081     | -0.000336     |
| 1609  | 1.2D+1L+1E | Combination | Max      | 0.186813  | 0.407718  | 0.232995  | 0.000242      | 0.000097      |
|       | y          |             |          |           |           |           |               |               |
| 1609  | 1.2D+1L+1E | Combination | Min      | -0.138336 | -0.426640 | -0.626311 | -0.000231     | -0.000081     |
|       | y          |             |          |           |           |           |               |               |
| 1609  | 0.9D+1Ey   | Combination | Max      | 0.178003  | 0.411013  | 0.298967  | 0.000240      | 0.000094      |
| 1609  | 0.9D+1Ey   | Combination | Min      | -0.147146 | -0.423345 | -0.560339 | -0.000233     | -0.000084     |
| 1609  | 1D+0.5L    | Combination |          | 0.018976  | -0.007471 | -0.156412 | 4.410E-06     | 6.092E-06     |
| 1610  | 1.4D       | Combination |          | -0.020322 | 0.004044  | -0.161717 | 0.000017      | -0.000010     |
| 1610  | 1.2D+1.6L  | Combination |          | -0.016583 | 0.004529  | -0.150988 | 0.000024      | -9.059E-06    |
| 1610  | 1.2D+1L+1E | Combination | Max      | 0.627660  | 0.242790  | 0.722154  | 0.000158      | 0.000336      |
| 1610  | 1.2D+1L+1E | Combination | Min      | -0.661453 | -0.234528 | -1.014850 | -0.000117     | -0.000354     |
| 1610  | 0.9D+1E    | Combination | Max      | 0.631492  | 0.241259  | 0.764541  | 0.000148      | 0.000338      |
| 1610  | 0.9D+1E    | Combination | Min      | -0.657621 | -0.236059 | -0.972463 | -0.000126     | -0.000352     |
| 1610  | 1.2D+1L+1E | Combination | Max      | 0.156354  | 0.405579  | 0.165584  | 0.000243      | 0.000081      |
|       | y          |             |          |           |           |           |               |               |
| 1610  | 1.2D+1L+1E | Combination | Min      | -0.190147 | -0.397318 | -0.458280 | -0.000203     | -0.000099     |
|       | y          |             |          |           |           |           |               |               |
| 1610  | 0.9D+1Ey   | Combination | Max      | 0.160187  | 0.404048  | 0.207971  | 0.000234      | 0.000083      |
| 1610  | 0.9D+1Ey   | Combination | Min      | -0.186315 | -0.398848 | -0.415893 | -0.000212     | -0.000096     |
| 1610  | 1D+0.5L    | Combination |          | -0.014255 | 0.003221  | -0.119379 | 0.000015      | -7.509E-06    |
| 1611  | 1.4D       | Combination |          | 0.047947  | 0.036249  | -0.179968 | -8.684E-06    | 0.000020      |
| 1611  | 1.2D+1.6L  | Combination |          | 0.048054  | 0.035461  | -0.172606 | -9.314E-06    | 0.000020      |
| 1611  | 1.2D+1L+1E | Combination | Max      | 0.582414  | 0.291175  | 0.207830  | 0.000133      | 0.000326      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1611  | 1.2D+1L+1E      | Combination | Min      | -0.491523 | -0.223546 | -0.539281 | -0.000150     | -0.000287     |
| 1611  | 0.9D+1E         | Combination | Max      | 0.567791  | 0.280664  | 0.257862  | 0.000136      | 0.000319      |
| 1611  | 0.9D+1E         | Combination | Min      | -0.506145 | -0.234058 | -0.489249 | -0.000147     | -0.000294     |
| 1611  | 1.2D+1L+1E<br>y | Combination | Max      | 0.194413  | 0.416387  | 0.128317  | 0.000203      | 0.000104      |
| 1611  | 1.2D+1L+1E<br>y | Combination | Min      | -0.103523 | -0.348758 | -0.459769 | -0.000220     | -0.000066     |
| 1611  | 0.9D+1Ey        | Combination | Max      | 0.179791  | 0.405875  | 0.178349  | 0.000206      | 0.000098      |
| 1611  | 0.9D+1Ey        | Combination | Min      | -0.118145 | -0.359269 | -0.409737 | -0.000217     | -0.000072     |
| 1611  | 1D+0.5L         | Combination |          | 0.036422  | 0.027264  | -0.134282 | -6.788E-06    | 0.000015      |
| 1612  | 1.4D            | Combination |          | -0.009444 | -0.039508 | -0.179212 | 8.062E-06     | -9.101E-06    |
| 1612  | 1.2D+1.6L       | Combination |          | -0.006048 | -0.036751 | -0.169721 | 7.058E-06     | -9.431E-06    |
| 1612  | 1.2D+1L+1E      | Combination | Max      | 0.575055  | 0.280776  | 0.337026  | 0.000162      | 0.000304      |
| 1612  | 1.2D+1L+1E      | Combination | Min      | -0.588686 | -0.352112 | -0.664385 | -0.000148     | -0.000322     |
| 1612  | 0.9D+1E         | Combination | Max      | 0.575800  | 0.291046  | 0.385498  | 0.000161      | 0.000307      |
| 1612  | 0.9D+1E         | Combination | Min      | -0.587942 | -0.341842 | -0.615913 | -0.000150     | -0.000319     |
| 1612  | 1.2D+1L+1E<br>y | Combination | Max      | 0.144957  | 0.418996  | 0.472273  | 0.000240      | 0.000075      |
| 1612  | 1.2D+1L+1E<br>y | Combination | Min      | -0.158588 | -0.490333 | -0.799632 | -0.000226     | -0.000093     |
| 1612  | 0.9D+1Ey        | Combination | Max      | 0.145702  | 0.429266  | 0.520745  | 0.000238      | 0.000078      |
| 1612  | 0.9D+1Ey        | Combination | Min      | -0.157844 | -0.480062 | -0.751160 | -0.000228     | -0.000090     |
| 1612  | 1D+0.5L         | Combination |          | -0.006106 | -0.029122 | -0.133043 | 5.805E-06     | -7.010E-06    |
| 1613  | 1.4D            | Combination |          | 0.006154  | -0.001407 | -0.575694 | 0.000281      | 0.000072      |
| 1613  | 1.2D+1.6L       | Combination |          | 0.008227  | -0.001583 | -0.688498 | 0.000376      | 0.000085      |
| 1613  | 1.2D+1L+1E      | Combination | Max      | 0.606890  | 0.151877  | -0.512957 | 0.000358      | 0.000198      |
| 1613  | 1.2D+1L+1E      | Combination | Min      | -0.592651 | -0.154760 | -0.717755 | 0.000292      | -0.000045     |
| 1613  | 0.9D+1E         | Combination | Max      | 0.603726  | 0.152414  | -0.267690 | 0.000213      | 0.000168      |
| 1613  | 0.9D+1E         | Combination | Min      | -0.595814 | -0.154223 | -0.472488 | 0.000147      | -0.000075     |
| 1613  | 1.2D+1L+1E<br>y | Combination | Max      | 0.162221  | 0.398394  | -0.474350 | 0.000335      | 0.000119      |
| 1613  | 1.2D+1L+1E<br>y | Combination | Min      | -0.147981 | -0.401278 | -0.756362 | 0.000315      | 0.000034      |
| 1613  | 0.9D+1Ey        | Combination | Max      | 0.159057  | 0.398931  | -0.229083 | 0.000190      | 0.000089      |
| 1613  | 0.9D+1Ey        | Combination | Min      | -0.151145 | -0.400741 | -0.511095 | 0.000170      | 3.767E-06     |
| 1613  | 1D+0.5L         | Combination |          | 0.005318  | -0.001123 | -0.472162 | 0.000243      | 0.000059      |
| 1615  | 1.4D            | Combination |          | 0.002737  | 0.005473  | -0.697460 | -0.000230     | -0.000019     |
| 1615  | 1.2D+1.6L       | Combination |          | 0.002928  | 0.004821  | -0.839175 | -0.000296     | -0.000025     |
| 1615  | 1.2D+1L+1E      | Combination | Max      | 0.706319  | 0.151247  | -0.496989 | -0.000068     | 0.000132      |
| 1615  | 1.2D+1L+1E      | Combination | Min      | -0.700899 | -0.141702 | -1.000346 | -0.000450     | -0.000176     |
| 1615  | 0.9D+1E         | Combination | Max      | 0.705368  | 0.149993  | -0.196689 | 0.000043      | 0.000141      |
| 1615  | 0.9D+1E         | Combination | Min      | -0.701849 | -0.142956 | -0.700046 | -0.000339     | -0.000166     |
| 1615  | 1.2D+1L+1E<br>y | Combination | Max      | 0.186022  | 0.419510  | -0.346154 | -0.000127     | 0.000027      |
| 1615  | 1.2D+1L+1E<br>y | Combination | Min      | -0.180602 | -0.409965 | -1.151181 | -0.000391     | -0.000071     |
| 1615  | 0.9D+1Ey        | Combination | Max      | 0.185071  | 0.418256  | -0.045854 | -0.000016     | 0.000037      |
| 1615  | 0.9D+1Ey        | Combination | Min      | -0.181553 | -0.411219 | -0.850880 | -0.000280     | -0.000061     |
| 1615  | 1D+0.5L         | Combination |          | 0.002137  | 0.003950  | -0.573608 | -0.000195     | -0.000016     |
| 1616  | 1.4D            | Combination |          | 0.000849  | 0.019668  | -0.325276 | 7.217E-06     | 0.000017      |
| 1616  | 1.2D+1.6L       | Combination |          | 0.002594  | 0.012255  | -0.307239 | 8.519E-06     | 0.000023      |
| 1616  | 1.2D+1L+1E      | Combination | Max      | 2.472405  | 0.937935  | 0.338262  | 0.000267      | 0.000721      |
| 1616  | 1.2D+1L+1E      | Combination | Min      | -2.468617 | -0.909973 | -0.931418 | -0.000252     | -0.000682     |
| 1616  | 0.9D+1E         | Combination | Max      | 2.471057  | 0.936598  | 0.425734  | 0.000264      | 0.000712      |
| 1616  | 0.9D+1E         | Combination | Min      | -2.469965 | -0.911311 | -0.843946 | -0.000255     | -0.000691     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1616  | 1.2D+1L+1E<br>y | Combination | Max      | 0.643643  | 1.438387  | 0.756415  | 0.000381      | 0.000202      |
| 1616  | 1.2D+1L+1E<br>y | Combination | Min      | -0.639855 | -1.410425 | -1.349570 | -0.000365     | -0.000162     |
| 1616  | 0.9D+1Ey        | Combination | Max      | 0.642294  | 1.437049  | 0.843886  | 0.000378      | 0.000193      |
| 1616  | 0.9D+1Ey        | Combination | Min      | -0.641203 | -1.411762 | -1.262098 | -0.000368     | -0.000171     |
| 1616  | 1D+0.5L         | Combination |          | 0.001190  | 0.012610  | -0.241225 | 5.884E-06     | 0.000015      |
| 1617  | 1.4D            | Combination |          | -0.027668 | -0.039057 | -0.338215 | 2.523E-06     | 0.000017      |
| 1617  | 1.2D+1.6L       | Combination |          | -0.024445 | -0.043898 | -0.327123 | 4.659E-06     | 0.000018      |
| 1617  | 1.2D+1L+1E      | Combination | Max      | 2.279791  | 0.904842  | 0.591481  | 0.000272      | 0.000699      |
| 1617  | 1.2D+1L+1E      | Combination | Min      | -2.328135 | -0.984822 | -1.217808 | -0.000264     | -0.000665     |
| 1617  | 0.9D+1E         | Combination | Max      | 2.286177  | 0.919724  | 0.687221  | 0.000270      | 0.000693      |
| 1617  | 0.9D+1E         | Combination | Min      | -2.321749 | -0.969940 | -1.122068 | -0.000266     | -0.000671     |
| 1617  | 1.2D+1L+1E<br>y | Combination | Max      | 0.572621  | 1.347763  | 0.314833  | 0.000392      | 0.000194      |
| 1617  | 1.2D+1L+1E<br>y | Combination | Min      | -0.620964 | -1.427743 | -0.941160 | -0.000384     | -0.000160     |
| 1617  | 0.9D+1Ey        | Combination | Max      | 0.579006  | 1.362645  | 0.410573  | 0.000390      | 0.000188      |
| 1617  | 0.9D+1Ey        | Combination | Min      | -0.614579 | -1.412861 | -0.845420 | -0.000386     | -0.000166     |
| 1617  | 1D+0.5L         | Combination |          | -0.019991 | -0.031154 | -0.253215 | 2.582E-06     | 0.000013      |
| 1618  | 1.4D            | Combination |          | 0.026809  | 0.003755  | -0.352541 | -0.000016     | -0.000011     |
| 1618  | 1.2D+1.6L       | Combination |          | 0.028615  | -0.002056 | -0.345184 | -0.000022     | -9.505E-06    |
| 1618  | 1.2D+1L+1E      | Combination | Max      | 2.388177  | 0.798008  | 1.332118  | 0.000208      | 0.000626      |
| 1618  | 1.2D+1L+1E      | Combination | Min      | -2.335174 | -0.798164 | -1.990232 | -0.000246     | -0.000645     |
| 1618  | 0.9D+1E         | Combination | Max      | 2.378909  | 0.800499  | 1.434541  | 0.000217      | 0.000628      |
| 1618  | 0.9D+1E         | Combination | Min      | -2.344441 | -0.795672 | -1.887809 | -0.000237     | -0.000642     |
| 1618  | 1.2D+1L+1E<br>y | Combination | Max      | 0.638429  | 1.422435  | 0.344022  | 0.000390      | 0.000159      |
| 1618  | 1.2D+1L+1E<br>y | Combination | Min      | -0.585426 | -1.422591 | -1.002136 | -0.000428     | -0.000178     |
| 1618  | 0.9D+1Ey        | Combination | Max      | 0.629161  | 1.424927  | 0.446445  | 0.000399      | 0.000161      |
| 1618  | 0.9D+1Ey        | Combination | Min      | -0.594693 | -1.420099 | -0.899712 | -0.000420     | -0.000175     |
| 1618  | 1D+0.5L         | Combination |          | 0.020910  | 0.001034  | -0.265255 | -0.000014     | -7.819E-06    |
| 1619  | 1.4D            | Combination |          | -0.009745 | 0.026182  | -0.400666 | 7.492E-06     | 5.945E-06     |
| 1619  | 1.2D+1.6L       | Combination |          | -0.008239 | 0.023805  | -0.403380 | 8.447E-06     | 6.477E-06     |
| 1619  | 1.2D+1L+1E      | Combination | Max      | 2.455571  | 0.541406  | 0.090052  | 0.000147      | 0.000724      |
| 1619  | 1.2D+1L+1E      | Combination | Min      | -2.472134 | -0.494818 | -0.851849 | -0.000132     | -0.000712     |
| 1619  | 0.9D+1E         | Combination | Max      | 2.457588  | 0.534943  | 0.213379  | 0.000144      | 0.000722      |
| 1619  | 0.9D+1E         | Combination | Min      | -2.470117 | -0.501281 | -0.728522 | -0.000135     | -0.000714     |
| 1619  | 1.2D+1L+1E<br>y | Combination | Max      | 0.632999  | 1.473386  | 0.440677  | 0.000395      | 0.000192      |
| 1619  | 1.2D+1L+1E<br>y | Combination | Min      | -0.649561 | -1.426798 | -1.202474 | -0.000379     | -0.000180     |
| 1619  | 0.9D+1Ey        | Combination | Max      | 0.635016  | 1.466923  | 0.564004  | 0.000392      | 0.000190      |
| 1619  | 0.9D+1Ey        | Combination | Min      | -0.647544 | -1.433261 | -1.079146 | -0.000382     | -0.000182     |
| 1619  | 1D+0.5L         | Combination |          | -0.006925 | 0.019127  | -0.304925 | 5.984E-06     | 4.678E-06     |
| 1620  | 1.4D            | Combination |          | 0.020864  | -0.001895 | -0.409700 | -0.000027     | 1.271E-06     |
| 1620  | 1.2D+1.6L       | Combination |          | 0.022656  | -0.004151 | -0.414173 | -0.000036     | 2.023E-06     |
| 1620  | 1.2D+1L+1E      | Combination | Max      | 2.507852  | 0.504978  | 0.757212  | 0.000093      | 0.000706      |
| 1620  | 1.2D+1L+1E      | Combination | Min      | -2.466119 | -0.511385 | -1.538307 | -0.000154     | -0.000703     |
| 1620  | 0.9D+1E         | Combination | Max      | 2.500398  | 0.506964  | 0.884381  | 0.000106      | 0.000706      |
| 1620  | 0.9D+1E         | Combination | Min      | -2.473573 | -0.509400 | -1.411138 | -0.000141     | -0.000704     |
| 1620  | 1.2D+1L+1E<br>y | Combination | Max      | 0.666127  | 1.440016  | 0.431747  | 0.000314      | 0.000186      |
| 1620  | 1.2D+1L+1E<br>y | Combination | Min      | -0.624394 | -1.446423 | -1.212842 | -0.000375     | -0.000182     |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1620  | 0.9D+1Ey   | Combination | Max      | 0.658673  | 1.442001  | 0.558916  | 0.000327      | 0.000185      |
| 1620  | 0.9D+1Ey   | Combination | Min      | -0.631848 | -1.444438 | -1.085674 | -0.000362     | -0.000183     |
| 1620  | 1D+0.5L    | Combination |          | 0.016394  | -0.002143 | -0.312331 | -0.000023     | 1.200E-06     |
| 1621  | 1.4D       | Combination |          | -0.010965 | -0.036666 | -0.411041 | 2.543E-07     | 6.572E-06     |
| 1621  | 1.2D+1.6L  | Combination |          | -0.008703 | -0.039754 | -0.417079 | 6.470E-07     | 7.608E-06     |
| 1621  | 1.2D+1L+1E | Combination | Max      | 2.363512  | 0.487310  | 0.126162  | 0.000141      | 0.000691      |
| 1621  | 1.2D+1L+1E | Combination | Min      | -2.381439 | -0.560574 | -0.911751 | -0.000140     | -0.000677     |
| 1621  | 0.9D+1E    | Combination | Max      | 2.365426  | 0.500371  | 0.254716  | 0.000141      | 0.000688      |
| 1621  | 0.9D+1E    | Combination | Min      | -2.379525 | -0.547513 | -0.783198 | -0.000141     | -0.000679     |
| 1621  | 1.2D+1L+1E | Combination | Max      | 0.604219  | 1.413185  | 0.407168  | 0.000391      | 0.000184      |
|       | y          |             |          |           |           |           |               |               |
| 1621  | 1.2D+1L+1E | Combination | Min      | -0.622146 | -1.486448 | -1.192757 | -0.000390     | -0.000170     |
|       | y          |             |          |           |           |           |               |               |
| 1621  | 0.9D+1Ey   | Combination | Max      | 0.606134  | 1.426246  | 0.535722  | 0.000391      | 0.000181      |
| 1621  | 0.9D+1Ey   | Combination | Min      | -0.620232 | -1.473387 | -1.064203 | -0.000391     | -0.000172     |
| 1621  | 1D+0.5L    | Combination |          | -0.007615 | -0.028792 | -0.313838 | 3.157E-07     | 5.311E-06     |
| 1622  | 1.4D       | Combination |          | 0.019138  | -0.008580 | -0.422239 | 0.000025      | 3.427E-06     |
| 1622  | 1.2D+1.6L  | Combination |          | 0.021923  | -0.010902 | -0.430681 | 0.000034      | 4.694E-06     |
| 1622  | 1.2D+1L+1E | Combination | Max      | 2.407436  | 0.499373  | 0.616420  | 0.000156      | 0.000668      |
| 1622  | 1.2D+1L+1E | Combination | Min      | -2.367729 | -0.518516 | -1.426211 | -0.000096     | -0.000660     |
| 1622  | 0.9D+1E    | Combination | Max      | 2.399885  | 0.503429  | 0.749876  | 0.000142      | 0.000666      |
| 1622  | 0.9D+1E    | Combination | Min      | -2.375279 | -0.514461 | -1.292755 | -0.000110     | -0.000662     |
| 1622  | 1.2D+1L+1E | Combination | Max      | 0.637719  | 1.435097  | 0.396523  | 0.000385      | 0.000177      |
|       | y          |             |          |           |           |           |               |               |
| 1622  | 1.2D+1L+1E | Combination | Min      | -0.598012 | -1.454240 | -1.206314 | -0.000326     | -0.000168     |
|       | y          |             |          |           |           |           |               |               |
| 1622  | 0.9D+1Ey   | Combination | Max      | 0.630169  | 1.439153  | 0.529979  | 0.000372      | 0.000175      |
| 1622  | 0.9D+1Ey   | Combination | Min      | -0.605562 | -1.450185 | -1.072857 | -0.000339     | -0.000170     |
| 1622  | 1D+0.5L    | Combination |          | 0.015395  | -0.007237 | -0.323087 | 0.000022      | 2.997E-06     |
| 1623  | 1.4D       | Combination |          | 0.015791  | 0.021921  | -0.393816 | 4.244E-06     | 4.425E-08     |
| 1623  | 1.2D+1.6L  | Combination |          | 0.017855  | 0.024234  | -0.400441 | 3.570E-06     | -5.052E-07    |
| 1623  | 1.2D+1L+1E | Combination | Max      | 2.485906  | 1.070872  | 0.264892  | 0.000286      | 0.000683      |
| 1623  | 1.2D+1L+1E | Combination | Min      | -2.453435 | -1.026487 | -1.018611 | -0.000279     | -0.000684     |
| 1623  | 0.9D+1E    | Combination | Max      | 2.479822  | 1.062772  | 0.388584  | 0.000285      | 0.000684      |
| 1623  | 0.9D+1E    | Combination | Min      | -2.459519 | -1.034587 | -0.894919 | -0.000280     | -0.000684     |
| 1623  | 1.2D+1L+1E | Combination | Max      | 0.657600  | 1.549461  | 0.662621  | 0.000397      | 0.000177      |
|       | y          |             |          |           |           |           |               |               |
| 1623  | 1.2D+1L+1E | Combination | Min      | -0.625130 | -1.505077 | -1.416339 | -0.000390     | -0.000177     |
|       | y          |             |          |           |           |           |               |               |
| 1623  | 0.9D+1Ey   | Combination | Max      | 0.651517  | 1.541361  | 0.786313  | 0.000396      | 0.000177      |
| 1623  | 0.9D+1Ey   | Combination | Min      | -0.631213 | -1.513177 | -1.292647 | -0.000391     | -0.000177     |
| 1623  | 1D+0.5L    | Combination |          | 0.012629  | 0.017359  | -0.300948 | 3.010E-06     | -1.381E-07    |
| 1624  | 1.4D       | Combination |          | 0.050266  | -0.036683 | -0.397604 | 1.191E-06     | -0.000011     |
| 1624  | 1.2D+1.6L  | Combination |          | 0.053433  | -0.035128 | -0.401189 | 1.151E-06     | -0.000011     |
| 1624  | 1.2D+1L+1E | Combination | Max      | 2.358187  | 1.031817  | 0.528991  | 0.000299      | 0.000671      |
| 1624  | 1.2D+1L+1E | Combination | Min      | -2.259082 | -1.099309 | -1.286080 | -0.000297     | -0.000692     |
| 1624  | 0.9D+1E    | Combination | Max      | 2.340948  | 1.041981  | 0.651932  | 0.000298      | 0.000675      |
| 1624  | 0.9D+1E    | Combination | Min      | -2.276320 | -1.089145 | -1.163138 | -0.000297     | -0.000689     |
| 1624  | 1.2D+1L+1E | Combination | Max      | 0.650429  | 1.473273  | 0.346631  | 0.000414      | 0.000166      |
|       | y          |             |          |           |           |           |               |               |
| 1624  | 1.2D+1L+1E | Combination | Min      | -0.551324 | -1.540766 | -1.103719 | -0.000411     | -0.000187     |
|       | y          |             |          |           |           |           |               |               |
| 1624  | 0.9D+1Ey   | Combination | Max      | 0.633190  | 1.483437  | 0.469572  | 0.000413      | 0.000169      |
| 1624  | 0.9D+1Ey   | Combination | Min      | -0.568563 | -1.530602 | -0.980778 | -0.000412     | -0.000184     |
| 1624  | 1D+0.5L    | Combination |          | 0.039138  | -0.027354 | -0.302873 | 8.911E-07     | -8.470E-06    |
| 1625  | 1.4D       | Combination |          | 0.047418  | -0.026747 | -0.434495 | 0.000019      | -9.417E-06    |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1625  | 1.2D+1.6L       | Combination |          | 0.055074  | -0.030450 | -0.446312 | 0.000026      | -7.539E-06    |
| 1625  | 1.2D+1L+1E      | Combination | Max      | 2.153877  | 0.645616  | 1.220217  | 0.000210      | 0.000548      |
| 1625  | 1.2D+1L+1E      | Combination | Min      | -2.054551 | -0.700872 | -2.057426 | -0.000165     | -0.000564     |
| 1625  | 0.9D+1E         | Combination | Max      | 2.134697  | 0.656050  | 1.359504  | 0.000200      | 0.000550      |
| 1625  | 0.9D+1E         | Combination | Min      | -2.073731 | -0.690438 | -1.918139 | -0.000175     | -0.000562     |
| 1625  | 1.2D+1L+1E<br>y | Combination | Max      | 0.594649  | 1.412813  | 0.238559  | 0.000409      | 0.000140      |
| 1625  | 1.2D+1L+1E<br>y | Combination | Min      | -0.495323 | -1.468069 | -1.075767 | -0.000364     | -0.000156     |
| 1625  | 0.9D+1Ey        | Combination | Max      | 0.575469  | 1.423247  | 0.377845  | 0.000399      | 0.000142      |
| 1625  | 0.9D+1Ey        | Combination | Min      | -0.514503 | -1.457635 | -0.936481 | -0.000374     | -0.000154     |
| 1625  | 1D+0.5L         | Combination |          | 0.038379  | -0.021456 | -0.333443 | 0.000017      | -6.560E-06    |
| 1626  | 1.4D            | Combination |          | -0.018785 | 0.021794  | -0.408356 | 7.648E-06     | 0.000022      |
| 1626  | 1.2D+1.6L       | Combination |          | -0.012401 | 0.018649  | -0.412147 | 9.079E-06     | 0.000024      |
| 1626  | 1.2D+1L+1E      | Combination | Max      | 2.017608  | 0.773054  | 0.244919  | 0.000219      | 0.000625      |
| 1626  | 1.2D+1L+1E      | Combination | Min      | -2.045184 | -0.735732 | -1.022618 | -0.000203     | -0.000581     |
| 1626  | 0.9D+1E         | Combination | Max      | 2.019320  | 0.768403  | 0.371254  | 0.000216      | 0.000617      |
| 1626  | 0.9D+1E         | Combination | Min      | -2.043472 | -0.740383 | -0.896283 | -0.000206     | -0.000589     |
| 1626  | 1.2D+1L+1E<br>y | Combination | Max      | 0.513401  | 1.434374  | 0.207799  | 0.000404      | 0.000179      |
| 1626  | 1.2D+1L+1E<br>y | Combination | Min      | -0.540977 | -1.397052 | -0.985498 | -0.000388     | -0.000135     |
| 1626  | 0.9D+1Ey        | Combination | Max      | 0.515113  | 1.429723  | 0.334134  | 0.000401      | 0.000171      |
| 1626  | 0.9D+1Ey        | Combination | Min      | -0.539265 | -1.401703 | -0.859163 | -0.000391     | -0.000142     |
| 1626  | 1D+0.5L         | Combination |          | -0.012261 | 0.015557  | -0.311098 | 6.251E-06     | 0.000017      |
| 1627  | 1.4D            | Combination |          | 0.019228  | -0.048146 | -0.440308 | 6.367E-06     | -0.000046     |
| 1627  | 1.2D+1.6L       | Combination |          | 0.026863  | -0.052712 | -0.453691 | 9.123E-06     | -0.000062     |
| 1627  | 1.2D+1L+1E      | Combination | Max      | 2.108290  | 0.732679  | 0.367333  | 0.000215      | 0.000391      |
| 1627  | 1.2D+1L+1E      | Combination | Min      | -2.062351 | -0.829519 | -1.217501 | -0.000200     | -0.000498     |
| 1627  | 0.9D+1E         | Combination | Max      | 2.097682  | 0.750148  | 0.509362  | 0.000211      | 0.000415      |
| 1627  | 0.9D+1E         | Combination | Min      | -2.072959 | -0.812050 | -1.075472 | -0.000203     | -0.000474     |
| 1627  | 1.2D+1L+1E<br>y | Combination | Max      | 0.565996  | 1.410027  | 0.757587  | 0.000397      | 0.000066      |
| 1627  | 1.2D+1L+1E<br>y | Combination | Min      | -0.520056 | -1.506867 | -1.607755 | -0.000382     | -0.000173     |
| 1627  | 0.9D+1Ey        | Combination | Max      | 0.555387  | 1.427496  | 0.899616  | 0.000393      | 0.000090      |
| 1627  | 0.9D+1Ey        | Combination | Min      | -0.530665 | -1.489398 | -1.465726 | -0.000385     | -0.000149     |
| 1627  | 1D+0.5L         | Combination |          | 0.016979  | -0.037966 | -0.338344 | 5.693E-06     | -0.000040     |
| 1628  | 1.4D            | Combination |          | 0.030823  | -0.009870 | -0.391133 | -0.000030     | 6.235E-06     |
| 1628  | 1.2D+1.6L       | Combination |          | 0.038007  | -0.011920 | -0.400138 | -0.000040     | 8.652E-06     |
| 1628  | 1.2D+1L+1E      | Combination | Max      | 2.151414  | 0.496865  | 0.592866  | 0.000090      | 0.000597      |
| 1628  | 1.2D+1L+1E      | Combination | Min      | -2.084091 | -0.518110 | -1.344481 | -0.000159     | -0.000582     |
| 1628  | 0.9D+1E         | Combination | Max      | 2.137568  | 0.501143  | 0.717231  | 0.000105      | 0.000594      |
| 1628  | 0.9D+1E         | Combination | Min      | -2.097938 | -0.513833 | -1.220116 | -0.000144     | -0.000586     |
| 1628  | 1.2D+1L+1E<br>y | Combination | Max      | 0.582094  | 1.429927  | 0.459524  | 0.000318      | 0.000161      |
| 1628  | 1.2D+1L+1E<br>y | Combination | Min      | -0.514771 | -1.451172 | -1.211139 | -0.000387     | -0.000146     |
| 1628  | 0.9D+1Ey        | Combination | Max      | 0.568248  | 1.434204  | 0.583888  | 0.000333      | 0.000158      |
| 1628  | 0.9D+1Ey        | Combination | Min      | -0.528618 | -1.446894 | -1.086774 | -0.000372     | -0.000150     |
| 1628  | 1D+0.5L         | Combination |          | 0.025637  | -0.008131 | -0.299656 | -0.000026     | 5.487E-06     |
| 1629  | 1.4D            | Combination |          | 0.000876  | 0.015936  | -0.372808 | 5.456E-06     | 0.000011      |
| 1629  | 1.2D+1.6L       | Combination |          | 0.007551  | 0.013933  | -0.376729 | 6.412E-06     | 0.000013      |
| 1629  | 1.2D+1L+1E      | Combination | Max      | 2.104353  | 0.534516  | 0.091062  | 0.000144      | 0.000620      |
| 1629  | 1.2D+1L+1E      | Combination | Min      | -2.094350 | -0.506856 | -0.801636 | -0.000133     | -0.000597     |
| 1629  | 0.9D+1E         | Combination | Max      | 2.099915  | 0.530930  | 0.206687  | 0.000142      | 0.000615      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1629  | 0.9D+1E    | Combination | Min      | -2.098788 | -0.510442 | -0.686011 | -0.000135     | -0.000602     |
| 1629  | 1.2D+1L+1E | Combination | Max      | 0.548496  | 1.467004  | 0.487049  | 0.000393      | 0.000169      |
|       | y          |             |          |           |           |           |               |               |
| 1629  | 1.2D+1L+1E | Combination | Min      | -0.538493 | -1.439344 | -1.197622 | -0.000381     | -0.000146     |
|       | y          |             |          |           |           |           |               |               |
| 1629  | 0.9D+1Ey   | Combination | Max      | 0.544058  | 1.463419  | 0.602673  | 0.000391      | 0.000164      |
| 1629  | 0.9D+1Ey   | Combination | Min      | -0.542931 | -1.442930 | -1.081998 | -0.000384     | -0.000151     |
| 1629  | 1D+0.5L    | Combination |          | 0.002751  | 0.011468  | -0.284160 | 4.439E-06     | 8.709E-06     |
| 1630  | 1.4D       | Combination |          | 0.011278  | -0.046606 | -0.386431 | 2.164E-08     | 0.000011      |
| 1630  | 1.2D+1.6L  | Combination |          | 0.018743  | -0.049600 | -0.394059 | 8.297E-07     | 0.000013      |
| 1630  | 1.2D+1L+1E | Combination | Max      | 2.108334  | 0.475619  | 0.079442  | 0.000138      | 0.000613      |
| 1630  | 1.2D+1L+1E | Combination | Min      | -2.077655 | -0.567580 | -0.820436 | -0.000137     | -0.000589     |
| 1630  | 0.9D+1E    | Combination | Max      | 2.100245  | 0.491639  | 0.201519  | 0.000138      | 0.000608      |
| 1630  | 0.9D+1E    | Combination | Min      | -2.085745 | -0.551560 | -0.698358 | -0.000138     | -0.000594     |
| 1630  | 1.2D+1L+1E | Combination | Max      | 0.561274  | 1.406599  | 0.470805  | 0.000386      | 0.000168      |
|       | y          |             |          |           |           |           |               |               |
| 1630  | 1.2D+1L+1E | Combination | Min      | -0.530595 | -1.498560 | -1.211799 | -0.000385     | -0.000145     |
|       | y          |             |          |           |           |           |               |               |
| 1630  | 0.9D+1Ey   | Combination | Max      | 0.553185  | 1.422618  | 0.592882  | 0.000385      | 0.000163      |
| 1630  | 0.9D+1Ey   | Combination | Min      | -0.538685 | -1.482540 | -1.089721 | -0.000385     | -0.000149     |
| 1630  | 1D+0.5L    | Combination |          | 0.010892  | -0.036306 | -0.295657 | 2.690E-07     | 8.930E-06     |
| 1631  | 1.4D       | Combination |          | 0.038953  | -0.015927 | -0.405450 | 3.626E-06     | 7.271E-06     |
| 1631  | 1.2D+1.6L  | Combination |          | 0.047163  | -0.017970 | -0.418675 | 4.678E-06     | 0.000010      |
| 1631  | 1.2D+1L+1E | Combination | Max      | 2.151574  | 0.490906  | 0.567302  | 0.000145      | 0.000595      |
| 1631  | 1.2D+1L+1E | Combination | Min      | -2.067579 | -0.523608 | -1.351292 | -0.000137     | -0.000578     |
| 1631  | 0.9D+1E    | Combination | Max      | 2.134618  | 0.497018  | 0.698650  | 0.000144      | 0.000591      |
| 1631  | 0.9D+1E    | Combination | Min      | -2.084536 | -0.517496 | -1.219943 | -0.000139     | -0.000582     |
| 1631  | 1.2D+1L+1E | Combination | Max      | 0.591794  | 1.423147  | 0.442715  | 0.000400      | 0.000162      |
|       | y          |             |          |           |           |           |               |               |
| 1631  | 1.2D+1L+1E | Combination | Min      | -0.507799 | -1.455848 | -1.226705 | -0.000392     | -0.000145     |
|       | y          |             |          |           |           |           |               |               |
| 1631  | 0.9D+1Ey   | Combination | Max      | 0.574837  | 1.429259  | 0.574063  | 0.000398      | 0.000159      |
| 1631  | 0.9D+1Ey   | Combination | Min      | -0.524755 | -1.449736 | -1.095357 | -0.000394     | -0.000149     |
| 1631  | 1D+0.5L    | Combination |          | 0.032128  | -0.012726 | -0.311840 | 3.081E-06     | 6.382E-06     |
| 1632  | 1.4D       | Combination |          | 0.008430  | 0.009360  | -0.329624 | 0.000014      | 0.000020      |
| 1632  | 1.2D+1.6L  | Combination |          | 0.016672  | 0.010907  | -0.308030 | 0.000020      | 0.000021      |
| 1632  | 1.2D+1L+1E | Combination | Max      | 2.114301  | 0.828779  | 1.315024  | 0.000244      | 0.000573      |
| 1632  | 1.2D+1L+1E | Combination | Min      | -2.088042 | -0.809128 | -1.911962 | -0.000210     | -0.000534     |
| 1632  | 0.9D+1E    | Combination | Max      | 2.106590  | 0.824971  | 1.401592  | 0.000236      | 0.000567      |
| 1632  | 0.9D+1E    | Combination | Min      | -2.095752 | -0.812937 | -1.825395 | -0.000217     | -0.000541     |
| 1632  | 1.2D+1L+1E | Combination | Max      | 0.556646  | 1.415991  | 0.305849  | 0.000396      | 0.000168      |
|       | y          |             |          |           |           |           |               |               |
| 1632  | 1.2D+1L+1E | Combination | Min      | -0.530387 | -1.396340 | -0.902787 | -0.000362     | -0.000129     |
|       | y          |             |          |           |           |           |               |               |
| 1632  | 0.9D+1Ey   | Combination | Max      | 0.548936  | 1.412183  | 0.392417  | 0.000389      | 0.000161      |
| 1632  | 0.9D+1Ey   | Combination | Min      | -0.538097 | -1.400149 | -0.816219 | -0.000370     | -0.000135     |
| 1632  | 1D+0.5L    | Combination |          | 0.008973  | 0.007587  | -0.243413 | 0.000013      | 0.000016      |
| 1633  | 1.4D       | Combination |          | 0.062521  | 0.033383  | -0.353975 | 6.919E-07     | -6.981E-06    |
| 1633  | 1.2D+1.6L  | Combination |          | 0.067919  | 0.034835  | -0.339431 | -5.337E-07    | -4.346E-06    |
| 1633  | 1.2D+1L+1E | Combination | Max      | 2.091030  | 0.930582  | 0.348339  | 0.000252      | 0.000600      |
| 1633  | 1.2D+1L+1E | Combination | Min      | -1.965939 | -0.865578 | -1.000183 | -0.000252     | -0.000610     |
| 1633  | 0.9D+1E    | Combination | Max      | 2.068677  | 0.919540  | 0.446706  | 0.000253      | 0.000601      |
| 1633  | 0.9D+1E    | Combination | Min      | -1.988292 | -0.876620 | -0.901817 | -0.000252     | -0.000610     |
| 1633  | 1.2D+1L+1E | Combination | Max      | 0.591995  | 1.390790  | 0.230012  | 0.000386      | 0.000152      |
|       | y          |             |          |           |           |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1633  | 1.2D+1L+1E<br>y | Combination | Min      | -0.466904 | -1.325786 | -0.881857 | -0.000386     | -0.000161     |
| 1633  | 0.9D+1Ey        | Combination | Max      | 0.569641  | 1.379748  | 0.328379  | 0.000386      | 0.000152      |
| 1633  | 0.9D+1Ey        | Combination | Min      | -0.489257 | -1.336828 | -0.783490 | -0.000385     | -0.000161     |
| 1633  | 1D+0.5L         | Combination |          | 0.049136  | 0.025789  | -0.264097 | 1.421E-07     | -4.475E-06    |
| 1634  | 1.4D            | Combination |          | 0.009561  | -0.032990 | -0.348418 | -5.074E-06    | -1.333E-06    |
| 1634  | 1.2D+1.6L       | Combination |          | 0.018688  | -0.028514 | -0.330291 | -5.622E-06    | -1.338E-06    |
| 1634  | 1.2D+1L+1E      | Combination | Max      | 2.106118  | 0.911947  | 0.614233  | 0.000244      | 0.000545      |
| 1634  | 1.2D+1L+1E      | Combination | Min      | -2.076611 | -0.968798 | -1.251079 | -0.000254     | -0.000548     |
| 1634  | 0.9D+1E         | Combination | Max      | 2.097511  | 0.919164  | 0.708673  | 0.000245      | 0.000546      |
| 1634  | 0.9D+1E         | Combination | Min      | -2.085218 | -0.961580 | -1.156639 | -0.000252     | -0.000547     |
| 1634  | 1.2D+1L+1E<br>y | Combination | Max      | 0.559567  | 1.386635  | 0.868286  | 0.000375      | 0.000146      |
| 1634  | 1.2D+1L+1E<br>y | Combination | Min      | -0.530061 | -1.443486 | -1.505132 | -0.000385     | -0.000148     |
| 1634  | 0.9D+1Ey        | Combination | Max      | 0.550961  | 1.393852  | 0.962726  | 0.000377      | 0.000146      |
| 1634  | 0.9D+1Ey        | Combination | Min      | -0.538668 | -1.436268 | -1.410692 | -0.000384     | -0.000148     |
| 1634  | 1D+0.5L         | Combination |          | 0.010108  | -0.023638 | -0.258759 | -4.022E-06    | -1.013E-06    |
| 1635  | 1.4D            | Combination |          | 0.012571  | 0.006698  | -0.481906 | 2.629E-06     | 0.000019      |
| 1635  | 1.2D+1.6L       | Combination |          | 0.016724  | -0.007307 | -0.455400 | 5.020E-06     | 0.000026      |
| 1635  | 1.2D+1L+1E      | Combination | Max      | 5.098075  | 1.912313  | 0.445132  | 0.000356      | 0.000961      |
| 1635  | 1.2D+1L+1E      | Combination | Min      | -5.069089 | -1.917141 | -1.324179 | -0.000348     | -0.000916     |
| 1635  | 0.9D+1E         | Combination | Max      | 5.091663  | 1.919033  | 0.574859  | 0.000354      | 0.000950      |
| 1635  | 0.9D+1E         | Combination | Min      | -5.075501 | -1.910421 | -1.194452 | -0.000351     | -0.000926     |
| 1635  | 1.2D+1L+1E<br>y | Combination | Max      | 1.333301  | 2.904946  | 1.017804  | 0.000533      | 0.000266      |
| 1635  | 1.2D+1L+1E<br>y | Combination | Min      | -1.304314 | -2.909774 | -1.896852 | -0.000525     | -0.000221     |
| 1635  | 0.9D+1Ey        | Combination | Max      | 1.326889  | 2.911666  | 1.147531  | 0.000531      | 0.000256      |
| 1635  | 0.9D+1Ey        | Combination | Min      | -1.310726 | -2.903054 | -1.767125 | -0.000528     | -0.000231     |
| 1635  | 1D+0.5L         | Combination |          | 0.010838  | 0.000707  | -0.357449 | 2.743E-06     | 0.000017      |
| 1636  | 1.4D            | Combination |          | -0.015429 | -0.048517 | -0.501407 | 4.454E-06     | -6.250E-06    |
| 1636  | 1.2D+1.6L       | Combination |          | -0.008907 | -0.060148 | -0.485070 | 7.431E-06     | -4.614E-06    |
| 1636  | 1.2D+1L+1E      | Combination | Max      | 4.782677  | 1.881504  | 0.773123  | 0.000373      | 0.000880      |
| 1636  | 1.2D+1L+1E      | Combination | Min      | -4.803730 | -1.987878 | -1.701794 | -0.000360     | -0.000890     |
| 1636  | 0.9D+1E         | Combination | Max      | 4.783285  | 1.903501  | 0.915125  | 0.000369      | 0.000881      |
| 1636  | 0.9D+1E         | Combination | Min      | -4.803122 | -1.965880 | -1.559791 | -0.000364     | -0.000889     |
| 1636  | 1.2D+1L+1E<br>y | Combination | Max      | 1.228744  | 2.826968  | 0.416013  | 0.000548      | 0.000225      |
| 1636  | 1.2D+1L+1E<br>y | Combination | Min      | -1.249797 | -2.933342 | -1.344684 | -0.000536     | -0.000235     |
| 1636  | 0.9D+1Ey        | Combination | Max      | 1.229352  | 2.848966  | 0.558016  | 0.000545      | 0.000226      |
| 1636  | 0.9D+1Ey        | Combination | Min      | -1.249189 | -2.911345 | -1.202682 | -0.000539     | -0.000234     |
| 1636  | 1D+0.5L         | Combination |          | -0.009671 | -0.040455 | -0.375427 | 4.311E-06     | -4.232E-06    |
| 1637  | 1.4D            | Combination |          | 0.038356  | -0.008177 | -0.522151 | -0.000013     | 0.000017      |
| 1637  | 1.2D+1.6L       | Combination |          | 0.043488  | -0.019909 | -0.511274 | -0.000020     | 0.000018      |
| 1637  | 1.2D+1L+1E      | Combination | Max      | 4.880600  | 1.639219  | 1.791233  | 0.000287      | 0.000918      |
| 1637  | 1.2D+1L+1E      | Combination | Min      | -4.801582 | -1.669362 | -2.765994 | -0.000321     | -0.000885     |
| 1637  | 0.9D+1E         | Combination | Max      | 4.865748  | 1.649034  | 1.942945  | 0.000295      | 0.000913      |
| 1637  | 0.9D+1E         | Combination | Min      | -4.816434 | -1.659547 | -2.614282 | -0.000313     | -0.000891     |
| 1637  | 1.2D+1L+1E<br>y | Combination | Max      | 1.291126  | 2.898571  | 0.473422  | 0.000535      | 0.000250      |
| 1637  | 1.2D+1L+1E<br>y | Combination | Min      | -1.212109 | -2.928714 | -1.448182 | -0.000568     | -0.000216     |
| 1637  | 0.9D+1Ey        | Combination | Max      | 1.276275  | 2.908386  | 0.625134  | 0.000543      | 0.000244      |
| 1637  | 0.9D+1Ey        | Combination | Min      | -1.226961 | -2.918899 | -1.296471 | -0.000560     | -0.000222     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1637  | 1D+0.5L    | Combination |          | 0.030713  | -0.009872 | -0.392876 | -0.000012     | 0.000013      |
| 1638  | 1.4D       | Combination |          | 0.002765  | 0.015085  | -0.593542 | 2.167E-06     | 2.188E-06     |
| 1638  | 1.2D+1.6L  | Combination |          | 0.006710  | 0.009636  | -0.597730 | 3.375E-06     | 2.822E-06     |
| 1638  | 1.2D+1L+1E | Combination | Max      | 5.091201  | 1.069567  | 0.079969  | 0.000197      | 0.000955      |
| 1638  | 1.2D+1L+1E | Combination | Min      | -5.081037 | -1.047824 | -1.208694 | -0.000191     | -0.000950     |
| 1638  | 0.9D+1E    | Combination | Max      | 5.087897  | 1.068393  | 0.262769  | 0.000195      | 0.000954      |
| 1638  | 0.9D+1E    | Combination | Min      | -5.084342 | -1.048998 | -1.025894 | -0.000193     | -0.000951     |
| 1638  | 1.2D+1L+1E | Combination | Max      | 1.325527  | 2.965746  | 0.583111  | 0.000544      | 0.000249      |
|       | y          |             |          |           |           |           |               |               |
| 1638  | 1.2D+1L+1E | Combination | Min      | -1.315363 | -2.944003 | -1.711837 | -0.000539     | -0.000244     |
|       | y          |             |          |           |           |           |               |               |
| 1638  | 0.9D+1Ey   | Combination | Max      | 1.322223  | 2.964572  | 0.765912  | 0.000543      | 0.000248      |
| 1638  | 0.9D+1Ey   | Combination | Min      | -1.318668 | -2.945177 | -1.529036 | -0.000540     | -0.000246     |
| 1638  | 1D+0.5L    | Combination |          | 0.003331  | 0.009745  | -0.451765 | 2.022E-06     | 1.859E-06     |
| 1639  | 1.4D       | Combination |          | 0.033570  | -0.011104 | -0.604716 | -0.000024     | 7.397E-06     |
| 1639  | 1.2D+1.6L  | Combination |          | 0.037810  | -0.015963 | -0.611326 | -0.000033     | 8.676E-06     |
| 1639  | 1.2D+1L+1E | Combination | Max      | 5.139034  | 1.026974  | 0.966167  | 0.000137      | 0.000955      |
| 1639  | 1.2D+1L+1E | Combination | Min      | -5.070192 | -1.054066 | -2.119070 | -0.000194     | -0.000939     |
| 1639  | 0.9D+1E    | Combination | Max      | 5.126193  | 1.033382  | 1.153873  | 0.000150      | 0.000952      |
| 1639  | 0.9D+1E    | Combination | Min      | -5.083032 | -1.047658 | -1.931365 | -0.000182     | -0.000942     |
| 1639  | 1.2D+1L+1E | Combination | Max      | 1.357938  | 2.941430  | 0.588319  | 0.000433      | 0.000253      |
|       | y          |             |          |           |           |           |               |               |
| 1639  | 1.2D+1L+1E | Combination | Min      | -1.289095 | -2.968523 | -1.741222 | -0.000490     | -0.000238     |
|       | y          |             |          |           |           |           |               |               |
| 1639  | 0.9D+1Ey   | Combination | Max      | 1.345097  | 2.947838  | 0.776024  | 0.000445      | 0.000250      |
| 1639  | 0.9D+1Ey   | Combination | Min      | -1.301936 | -2.962115 | -1.553516 | -0.000477     | -0.000241     |
| 1639  | 1D+0.5L    | Combination |          | 0.026802  | -0.009946 | -0.461002 | -0.000021     | 6.013E-06     |
| 1640  | 1.4D       | Combination |          | 0.003051  | -0.044512 | -0.610448 | 1.247E-06     | 3.490E-06     |
| 1640  | 1.2D+1.6L  | Combination |          | 0.008707  | -0.050662 | -0.619563 | 1.973E-06     | 4.684E-06     |
| 1640  | 1.2D+1L+1E | Combination | Max      | 4.889689  | 1.017452  | 0.129296  | 0.000197      | 0.000913      |
| 1640  | 1.2D+1L+1E | Combination | Min      | -4.876844 | -1.109395 | -1.296180 | -0.000194     | -0.000905     |
| 1640  | 0.9D+1E    | Combination | Max      | 4.885228  | 1.034809  | 0.320307  | 0.000197      | 0.000911      |
| 1640  | 0.9D+1E    | Combination | Min      | -4.881305 | -1.092038 | -1.105169 | -0.000195     | -0.000907     |
| 1640  | 1.2D+1L+1E | Combination | Max      | 1.267625  | 2.908994  | 0.533584  | 0.000546      | 0.000239      |
|       | y          |             |          |           |           |           |               |               |
| 1640  | 1.2D+1L+1E | Combination | Min      | -1.254780 | -3.000936 | -1.700468 | -0.000542     | -0.000231     |
|       | y          |             |          |           |           |           |               |               |
| 1640  | 0.9D+1Ey   | Combination | Max      | 1.263164  | 2.926350  | 0.724595  | 0.000545      | 0.000237      |
| 1640  | 0.9D+1Ey   | Combination | Min      | -1.259241 | -2.983579 | -1.509457 | -0.000543     | -0.000232     |
| 1640  | 1D+0.5L    | Combination |          | 0.004083  | -0.035703 | -0.466135 | 1.173E-06     | 3.022E-06     |
| 1641  | 1.4D       | Combination |          | 0.032938  | -0.017076 | -0.623845 | 0.000026      | 8.976E-06     |
| 1641  | 1.2D+1.6L  | Combination |          | 0.039118  | -0.021976 | -0.636244 | 0.000036      | 0.000011      |
| 1641  | 1.2D+1L+1E | Combination | Max      | 4.929736  | 1.021787  | 0.767905  | 0.000200      | 0.000899      |
| 1641  | 1.2D+1L+1E | Combination | Min      | -4.859665 | -1.060234 | -1.964253 | -0.000138     | -0.000880     |
| 1641  | 0.9D+1E    | Combination | Max      | 4.915875  | 1.030033  | 0.965036  | 0.000186      | 0.000895      |
| 1641  | 0.9D+1E    | Combination | Min      | -4.873526 | -1.051988 | -1.767122 | -0.000152     | -0.000884     |
| 1641  | 1.2D+1L+1E | Combination | Max      | 1.299889  | 2.936537  | 0.531816  | 0.000509      | 0.000240      |
|       | y          |             |          |           |           |           |               |               |
| 1641  | 1.2D+1L+1E | Combination | Min      | -1.229817 | -2.974985 | -1.728164 | -0.000447     | -0.000220     |
|       | y          |             |          |           |           |           |               |               |
| 1641  | 0.9D+1Ey   | Combination | Max      | 1.286027  | 2.944783  | 0.728947  | 0.000495      | 0.000236      |
| 1641  | 0.9D+1Ey   | Combination | Min      | -1.243679 | -2.966738 | -1.531033 | -0.000461     | -0.000224     |
| 1641  | 1D+0.5L    | Combination |          | 0.026929  | -0.014491 | -0.477328 | 0.000023      | 7.420E-06     |
| 1642  | 1.4D       | Combination |          | 0.028102  | 0.018691  | -0.584087 | -1.202E-07    | 1.925E-06     |
| 1642  | 1.2D+1.6L  | Combination |          | 0.032463  | 0.023134  | -0.593558 | -9.576E-07    | 1.565E-06     |
| 1642  | 1.2D+1L+1E | Combination | Max      | 5.115256  | 2.162888  | 0.313307  | 0.000378      | 0.000914      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1642  | 1.2D+1L+1E      | Combination | Min      | -5.056612 | -2.121955 | -1.430740 | -0.000379     | -0.000910     |
| 1642  | 0.9D+1E         | Combination | Max      | 5.104000  | 2.154437  | 0.496539  | 0.000379      | 0.000913      |
| 1642  | 0.9D+1E         | Combination | Min      | -5.067868 | -2.130406 | -1.247508 | -0.000379     | -0.000911     |
| 1642  | 1.2D+1L+1E<br>y | Combination | Max      | 1.349034  | 3.114395  | 0.851801  | 0.000543      | 0.000238      |
| 1642  | 1.2D+1L+1E<br>y | Combination | Min      | -1.290389 | -3.073462 | -1.969233 | -0.000544     | -0.000235     |
| 1642  | 0.9D+1Ey        | Combination | Max      | 1.337777  | 3.105944  | 1.035032  | 0.000543      | 0.000237      |
| 1642  | 0.9D+1Ey        | Combination | Min      | -1.301646 | -3.081913 | -1.786001 | -0.000543     | -0.000235     |
| 1642  | 1D+0.5L         | Combination |          | 0.022690  | 0.015573  | -0.446240 | -3.529E-07    | 1.348E-06     |
| 1643  | 1.4D            | Combination |          | 0.063803  | -0.036638 | -0.588670 | 1.926E-06     | 0.000019      |
| 1643  | 1.2D+1.6L       | Combination |          | 0.070120  | -0.032918 | -0.594357 | 1.820E-06     | 0.000020      |
| 1643  | 1.2D+1L+1E      | Combination | Max      | 4.865386  | 2.126622  | 0.671213  | 0.000402      | 0.000902      |
| 1643  | 1.2D+1L+1E      | Combination | Min      | -4.736720 | -2.191321 | -1.792590 | -0.000398     | -0.000864     |
| 1643  | 0.9D+1E         | Combination | Max      | 4.842069  | 2.135419  | 0.853471  | 0.000401      | 0.000895      |
| 1643  | 0.9D+1E         | Combination | Min      | -4.760037 | -2.182525 | -1.610333 | -0.000399     | -0.000871     |
| 1643  | 1.2D+1L+1E<br>y | Combination | Max      | 1.307954  | 3.049060  | 0.450924  | 0.000567      | 0.000249      |
| 1643  | 1.2D+1L+1E<br>y | Combination | Min      | -1.179289 | -3.113760 | -1.572301 | -0.000563     | -0.000212     |
| 1643  | 0.9D+1Ey        | Combination | Max      | 1.284637  | 3.057857  | 0.633182  | 0.000566      | 0.000243      |
| 1643  | 0.9D+1Ey        | Combination | Min      | -1.202606 | -3.104963 | -1.390043 | -0.000564     | -0.000218     |
| 1643  | 1D+0.5L         | Combination |          | 0.050396  | -0.026643 | -0.448536 | 1.428E-06     | 0.000015      |
| 1644  | 1.4D            | Combination |          | 0.071774  | -0.044928 | -0.642166 | 0.000020      | 0.000025      |
| 1644  | 1.2D+1.6L       | Combination |          | 0.087484  | -0.053795 | -0.659455 | 0.000028      | 0.000028      |
| 1644  | 1.2D+1L+1E      | Combination | Max      | 4.371119  | 1.327851  | 1.642593  | 0.000277      | 0.000828      |
| 1644  | 1.2D+1L+1E      | Combination | Min      | -4.215624 | -1.423976 | -2.879732 | -0.000228     | -0.000777     |
| 1644  | 0.9D+1E         | Combination | Max      | 4.339512  | 1.347031  | 1.848341  | 0.000266      | 0.000818      |
| 1644  | 0.9D+1E         | Combination | Min      | -4.247232 | -1.404796 | -2.673983 | -0.000240     | -0.000787     |
| 1644  | 1.2D+1L+1E<br>y | Combination | Max      | 1.187941  | 2.904765  | 0.321289  | 0.000546      | 0.000233      |
| 1644  | 1.2D+1L+1E<br>y | Combination | Min      | -1.032446 | -3.000891 | -1.558428 | -0.000497     | -0.000182     |
| 1644  | 0.9D+1Ey        | Combination | Max      | 1.156334  | 2.923946  | 0.527037  | 0.000535      | 0.000224      |
| 1644  | 0.9D+1Ey        | Combination | Min      | -1.064054 | -2.981710 | -1.352680 | -0.000509     | -0.000192     |
| 1644  | 1D+0.5L         | Combination |          | 0.059380  | -0.036868 | -0.492761 | 0.000018      | 0.000020      |
| 1645  | 1.4D            | Combination |          | 0.006936  | -0.002844 | -0.605685 | 9.067E-06     | -5.846E-06    |
| 1645  | 1.2D+1.6L       | Combination |          | 0.021412  | -0.012132 | -0.611697 | 0.000012      | -3.713E-06    |
| 1645  | 1.2D+1L+1E      | Combination | Max      | 4.248011  | 1.553313  | 0.283755  | 0.000303      | 0.000768      |
| 1645  | 1.2D+1L+1E      | Combination | Min      | -4.216787 | -1.570307 | -1.437745 | -0.000283     | -0.000776     |
| 1645  | 0.9D+1E         | Combination | Max      | 4.236858  | 1.559982  | 0.471381  | 0.000299      | 0.000769      |
| 1645  | 0.9D+1E         | Combination | Min      | -4.227940 | -1.563638 | -1.250119 | -0.000287     | -0.000776     |
| 1645  | 1.2D+1L+1E<br>y | Combination | Max      | 1.111071  | 2.926503  | 0.254427  | 0.000563      | 0.000197      |
| 1645  | 1.2D+1L+1E<br>y | Combination | Min      | -1.079848 | -2.943496 | -1.408417 | -0.000543     | -0.000206     |
| 1645  | 0.9D+1Ey        | Combination | Max      | 1.099919  | 2.933171  | 0.442053  | 0.000559      | 0.000198      |
| 1645  | 0.9D+1Ey        | Combination | Min      | -1.091001 | -2.936828 | -1.220791 | -0.000547     | -0.000205     |
| 1645  | 1D+0.5L         | Combination |          | 0.009788  | -0.005061 | -0.461550 | 7.675E-06     | -3.770E-06    |
| 1646  | 1.4D            | Combination |          | 0.048600  | -0.068732 | -0.651029 | 0.000015      | -0.000047     |
| 1646  | 1.2D+1.6L       | Combination |          | 0.065356  | -0.079344 | -0.670389 | 0.000019      | -0.000062     |
| 1646  | 1.2D+1L+1E      | Combination | Max      | 4.349873  | 1.511030  | 0.491537  | 0.000308      | 0.000543      |
| 1646  | 1.2D+1L+1E      | Combination | Min      | -4.236935 | -1.654394 | -1.748042 | -0.000274     | -0.000651     |
| 1646  | 0.9D+1E         | Combination | Max      | 4.324646  | 1.538528  | 0.701271  | 0.000301      | 0.000567      |
| 1646  | 0.9D+1E         | Combination | Min      | -4.262161 | -1.626897 | -1.538308 | -0.000282     | -0.000627     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1646  | 1.2D+1L+1E<br>y | Combination | Max      | 1.174144  | 2.897110  | 1.014263  | 0.000566      | 0.000106      |
| 1646  | 1.2D+1L+1E<br>y | Combination | Min      | -1.061207 | -3.040474 | -2.270769 | -0.000532     | -0.000214     |
| 1646  | 0.9D+1Ey        | Combination | Max      | 1.148918  | 2.924607  | 1.223997  | 0.000559      | 0.000130      |
| 1646  | 0.9D+1Ey        | Combination | Min      | -1.086433 | -3.012977 | -2.061035 | -0.000540     | -0.000190     |
| 1646  | 1D+0.5L         | Combination |          | 0.042120  | -0.055479 | -0.500135 | 0.000013      | -0.000040     |
| 1647  | 1.4D            | Combination |          | 0.057724  | -0.020155 | -0.576453 | -0.000031     | 0.000013      |
| 1647  | 1.2D+1.6L       | Combination |          | 0.072974  | -0.024799 | -0.589456 | -0.000042     | 0.000017      |
| 1647  | 1.2D+1L+1E      | Combination | Max      | 4.398590  | 1.017348  | 0.749312  | 0.000131      | 0.000806      |
| 1647  | 1.2D+1L+1E      | Combination | Min      | -4.270265 | -1.061304 | -1.856709 | -0.000203     | -0.000776     |
| 1647  | 0.9D+1E         | Combination | Max      | 4.371536  | 1.026369  | 0.932434  | 0.000147      | 0.000800      |
| 1647  | 0.9D+1E         | Combination | Min      | -4.297319 | -1.052283 | -1.673587 | -0.000187     | -0.000783     |
| 1647  | 1.2D+1L+1E<br>y | Combination | Max      | 1.185095  | 2.928900  | 0.628950  | 0.000437      | 0.000220      |
| 1647  | 1.2D+1L+1E<br>y | Combination | Min      | -1.056770 | -2.972856 | -1.736346 | -0.000510     | -0.000190     |
| 1647  | 0.9D+1Ey        | Combination | Max      | 1.158041  | 2.937921  | 0.812072  | 0.000453      | 0.000213      |
| 1647  | 0.9D+1Ey        | Combination | Min      | -1.083824 | -2.963835 | -1.553225 | -0.000494     | -0.000196     |
| 1647  | 1D+0.5L         | Combination |          | 0.048574  | -0.016747 | -0.441550 | -0.000027     | 0.000011      |
| 1648  | 1.4D            | Combination |          | 0.027542  | 0.002402  | -0.553967 | 5.052E-06     | 7.845E-06     |
| 1648  | 1.2D+1.6L       | Combination |          | 0.042272  | -0.002654 | -0.560109 | 6.372E-06     | 0.000011      |
| 1648  | 1.2D+1L+1E      | Combination | Max      | 4.354585  | 1.059336  | 0.084559  | 0.000200      | 0.000817      |
| 1648  | 1.2D+1L+1E      | Combination | Min      | -4.284040 | -1.061109 | -1.140817 | -0.000189     | -0.000798     |
| 1648  | 0.9D+1E         | Combination | Max      | 4.337018  | 1.061767  | 0.256566  | 0.000198      | 0.000813      |
| 1648  | 0.9D+1E         | Combination | Min      | -4.301607 | -1.058679 | -0.968810 | -0.000191     | -0.000802     |
| 1648  | 1.2D+1L+1E<br>y | Combination | Max      | 1.152145  | 2.958913  | 0.650004  | 0.000548      | 0.000218      |
| 1648  | 1.2D+1L+1E<br>y | Combination | Min      | -1.081600 | -2.960686 | -1.706262 | -0.000537     | -0.000200     |
| 1648  | 0.9D+1Ey        | Combination | Max      | 1.134578  | 2.961343  | 0.822011  | 0.000546      | 0.000214      |
| 1648  | 0.9D+1Ey        | Combination | Min      | -1.099167 | -2.958255 | -1.534255 | -0.000539     | -0.000204     |
| 1648  | 1D+0.5L         | Combination |          | 0.025505  | 0.000243  | -0.422341 | 4.247E-06     | 6.883E-06     |
| 1649  | 1.4D            | Combination |          | 0.041385  | -0.056880 | -0.572839 | 5.270E-06     | 9.728E-06     |
| 1649  | 1.2D+1.6L       | Combination |          | 0.057933  | -0.062944 | -0.584495 | 6.537E-06     | 0.000013      |
| 1649  | 1.2D+1L+1E      | Combination | Max      | 4.354485  | 1.003064  | 0.068206  | 0.000199      | 0.000809      |
| 1649  | 1.2D+1L+1E      | Combination | Min      | -4.255463 | -1.118309 | -1.167078 | -0.000188     | -0.000787     |
| 1649  | 0.9D+1E         | Combination | Max      | 4.331579  | 1.024121  | 0.249389  | 0.000197      | 0.000804      |
| 1649  | 0.9D+1E         | Combination | Min      | -4.278369 | -1.097252 | -0.985896 | -0.000190     | -0.000792     |
| 1649  | 1.2D+1L+1E<br>y | Combination | Max      | 1.170604  | 2.901654  | 0.628235  | 0.000547      | 0.000219      |
| 1649  | 1.2D+1L+1E<br>y | Combination | Min      | -1.071582 | -3.016900 | -1.727108 | -0.000535     | -0.000196     |
| 1649  | 0.9D+1Ey        | Combination | Max      | 1.147698  | 2.922711  | 0.809418  | 0.000544      | 0.000214      |
| 1649  | 0.9D+1Ey        | Combination | Min      | -1.094488 | -2.995843 | -1.545925 | -0.000537     | -0.000201     |
| 1649  | 1D+0.5L         | Combination |          | 0.036580  | -0.045063 | -0.438386 | 4.396E-06     | 8.390E-06     |
| 1650  | 1.4D            | Combination |          | 0.068848  | -0.025489 | -0.596906 | 5.963E-06     | 0.000013      |
| 1650  | 1.2D+1.6L       | Combination |          | 0.086138  | -0.030122 | -0.616186 | 7.468E-06     | 0.000017      |
| 1650  | 1.2D+1L+1E      | Combination | Max      | 4.393806  | 1.012267  | 0.712703  | 0.000196      | 0.000801      |
| 1650  | 1.2D+1L+1E      | Combination | Min      | -4.241874 | -1.066306 | -1.866660 | -0.000183     | -0.000771     |
| 1650  | 0.9D+1E         | Combination | Max      | 4.362099  | 1.022901  | 0.905956  | 0.000194      | 0.000794      |
| 1650  | 0.9D+1E         | Combination | Min      | -4.273581 | -1.055673 | -1.673407 | -0.000186     | -0.000777     |
| 1650  | 1.2D+1L+1E<br>y | Combination | Max      | 1.199923  | 2.923539  | 0.605582  | 0.000539      | 0.000220      |
| 1650  | 1.2D+1L+1E<br>y | Combination | Min      | -1.047990 | -2.977578 | -1.759540 | -0.000526     | -0.000189     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1650  | 0.9D+1Ey   | Combination | Max      | 1.168216  | 2.934172  | 0.798835  | 0.000536      | 0.000213      |
| 1650  | 0.9D+1Ey   | Combination | Min      | -1.079697 | -2.966944 | -1.566286 | -0.000529     | -0.000196     |
| 1650  | 1D+0.5L    | Combination |          | 0.057654  | -0.020792 | -0.459034 | 4.996E-06     | 0.000011      |
| 1651  | 1.4D       | Combination |          | 0.036826  | 0.011423  | -0.488922 | 0.000015      | -3.433E-06    |
| 1651  | 1.2D+1.6L  | Combination |          | 0.052796  | 0.014906  | -0.457088 | 0.000021      | -3.598E-07    |
| 1651  | 1.2D+1L+1E | Combination | Max      | 4.328149  | 1.692451  | 1.781743  | 0.000322      | 0.000800      |
| 1651  | 1.2D+1L+1E | Combination | Min      | -4.238481 | -1.666474 | -2.667410 | -0.000285     | -0.000802     |
| 1651  | 0.9D+1E    | Combination | Max      | 4.306988  | 1.686806  | 1.910269  | 0.000313      | 0.000799      |
| 1651  | 0.9D+1E    | Combination | Min      | -4.259641 | -1.672119 | -2.538884 | -0.000294     | -0.000803     |
| 1651  | 1.2D+1L+1E | Combination | Max      | 1.152940  | 2.916925  | 0.421139  | 0.000530      | 0.000206      |
|       | y          |             |          |           |           |           |               |               |
| 1651  | 1.2D+1L+1E | Combination | Min      | -1.063272 | -2.890949 | -1.306807 | -0.000494     | -0.000208     |
|       | y          |             |          |           |           |           |               |               |
| 1651  | 0.9D+1Ey   | Combination | Max      | 1.131779  | 2.911280  | 0.549666  | 0.000522      | 0.000205      |
| 1651  | 0.9D+1Ey   | Combination | Min      | -1.084432 | -2.896594 | -1.178280 | -0.000502     | -0.000209     |
| 1651  | 1D+0.5L    | Combination |          | 0.032939  | 0.009758  | -0.361109 | 0.000013      | -1.645E-06    |
| 1652  | 1.4D       | Combination |          | 0.089978  | 0.034626  | -0.523763 | -2.056E-06    | 0.000021      |
| 1652  | 1.2D+1.6L  | Combination |          | 0.103147  | 0.039124  | -0.502168 | -3.624E-06    | 0.000023      |
| 1652  | 1.2D+1L+1E | Combination | Max      | 4.315109  | 1.898890  | 0.435532  | 0.000349      | 0.000794      |
| 1652  | 1.2D+1L+1E | Combination | Min      | -4.128332 | -1.827725 | -1.399947 | -0.000354     | -0.000751     |
| 1652  | 0.9D+1E    | Combination | Max      | 4.279564  | 1.885567  | 0.581035  | 0.000350      | 0.000786      |
| 1652  | 0.9D+1E    | Combination | Min      | -4.163878 | -1.841048 | -1.254444 | -0.000353     | -0.000759     |
| 1652  | 1.2D+1L+1E | Combination | Max      | 1.189945  | 2.874780  | 0.289650  | 0.000540      | 0.000224      |
|       | y          |             |          |           |           |           |               |               |
| 1652  | 1.2D+1L+1E | Combination | Min      | -1.003168 | -2.803615 | -1.254065 | -0.000546     | -0.000181     |
|       | y          |             |          |           |           |           |               |               |
| 1652  | 0.9D+1Ey   | Combination | Max      | 1.154399  | 2.861457  | 0.435153  | 0.000542      | 0.000216      |
| 1652  | 0.9D+1Ey   | Combination | Min      | -1.038713 | -2.816938 | -1.108562 | -0.000544     | -0.000189     |
| 1652  | 1D+0.5L    | Combination |          | 0.072402  | 0.027684  | -0.390750 | -2.050E-06    | 0.000017      |
| 1653  | 1.4D       | Combination |          | 0.039853  | -0.027883 | -0.518751 | -2.774E-07    | 6.781E-07     |
| 1653  | 1.2D+1.6L  | Combination |          | 0.057882  | -0.020605 | -0.492359 | -1.507E-06    | 1.011E-06     |
| 1653  | 1.2D+1L+1E | Combination | Max      | 4.354038  | 1.875191  | 0.844808  | 0.000353      | 0.000731      |
| 1653  | 1.2D+1L+1E | Combination | Min      | -4.256065 | -1.918872 | -1.793739 | -0.000355     | -0.000729     |
| 1653  | 0.9D+1E    | Combination | Max      | 4.330671  | 1.879107  | 0.985791  | 0.000354      | 0.000731      |
| 1653  | 0.9D+1E    | Combination | Min      | -4.279432 | -1.914957 | -1.652756 | -0.000354     | -0.000730     |
| 1653  | 1.2D+1L+1E | Combination | Max      | 1.169778  | 2.863937  | 1.187140  | 0.000545      | 0.000196      |
|       | y          |             |          |           |           |           |               |               |
| 1653  | 1.2D+1L+1E | Combination | Min      | -1.071806 | -2.907618 | -2.136071 | -0.000547     | -0.000195     |
|       | y          |             |          |           |           |           |               |               |
| 1653  | 0.9D+1Ey   | Combination | Max      | 1.146412  | 2.867852  | 1.328123  | 0.000546      | 0.000196      |
| 1653  | 0.9D+1Ey   | Combination | Min      | -1.095172 | -2.903702 | -1.995088 | -0.000547     | -0.000195     |
| 1653  | 1D+0.5L    | Combination |          | 0.035880  | -0.018887 | -0.385447 | -5.947E-07    | 6.188E-07     |
| 1654  | 1.4D       | Combination |          | 0.029761  | -0.011274 | -0.630345 | 8.018E-06     | 0.000021      |
| 1654  | 1.2D+1.6L  | Combination |          | 0.037306  | -0.034115 | -0.595931 | 0.000011      | 0.000028      |
| 1654  | 1.2D+1L+1E | Combination | Max      | 8.387729  | 3.133743  | 0.518870  | 0.000430      | 0.001148      |
| 1654  | 1.2D+1L+1E | Combination | Min      | -8.321965 | -3.183635 | -1.669005 | -0.000411     | -0.001099     |
| 1654  | 0.9D+1E    | Combination | Max      | 8.373979  | 3.151441  | 0.688716  | 0.000426      | 0.001137      |
| 1654  | 0.9D+1E    | Combination | Min      | -8.335715 | -3.165936 | -1.499160 | -0.000415     | -0.001110     |
| 1654  | 1.2D+1L+1E | Combination | Max      | 2.198415  | 4.784401  | 1.216404  | 0.000652      | 0.000315      |
|       | y          |             |          |           |           |           |               |               |
| 1654  | 1.2D+1L+1E | Combination | Min      | -2.132651 | -4.834292 | -2.366539 | -0.000633     | -0.000267     |
|       | y          |             |          |           |           |           |               |               |
| 1654  | 0.9D+1Ey   | Combination | Max      | 2.184665  | 4.802099  | 1.386249  | 0.000647      | 0.000304      |
| 1654  | 0.9D+1Ey   | Combination | Min      | -2.146401 | -4.816594 | -2.196693 | -0.000637     | -0.000278     |
| 1654  | 1D+0.5L    | Combination |          | 0.024944  | -0.015694 | -0.467632 | 6.957E-06     | 0.000018      |
| 1655  | 1.4D       | Combination |          | 0.002530  | -0.064746 | -0.658258 | 8.245E-06     | 0.000016      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1655  | 1.2D+1.6L       | Combination |          | 0.013618  | -0.085320 | -0.636975 | 0.000012      | 0.000018      |
| 1655  | 1.2D+1L+1E      | Combination | Max      | 7.933075  | 3.102742  | 0.892763  | 0.000445      | 0.001112      |
| 1655  | 1.2D+1L+1E      | Combination | Min      | -7.914425 | -3.251014 | -2.112147 | -0.000425     | -0.001080     |
| 1655  | 0.9D+1E         | Combination | Max      | 7.925377  | 3.135256  | 1.079290  | 0.000440      | 0.001106      |
| 1655  | 0.9D+1E         | Combination | Min      | -7.922123 | -3.218501 | -1.925621 | -0.000430     | -0.001085     |
| 1655  | 1.2D+1L+1E<br>y | Combination | Max      | 2.056197  | 4.714207  | 0.493293  | 0.000670      | 0.000299      |
| 1655  | 1.2D+1L+1E<br>y | Combination | Min      | -2.037547 | -4.862479 | -1.712677 | -0.000650     | -0.000267     |
| 1655  | 0.9D+1Ey        | Combination | Max      | 2.048498  | 4.746720  | 0.679819  | 0.000666      | 0.000293      |
| 1655  | 0.9D+1Ey        | Combination | Min      | -2.045245 | -4.829965 | -1.526150 | -0.000655     | -0.000273     |
| 1655  | 1D+0.5L         | Combination |          | 0.005385  | -0.055567 | -0.492920 | 7.355E-06     | 0.000013      |
| 1656  | 1.4D            | Combination |          | 0.055504  | -0.025666 | -0.686318 | -0.000013     | -1.959E-06    |
| 1656  | 1.2D+1.6L       | Combination |          | 0.065241  | -0.045201 | -0.672029 | -0.000018     | 1.237E-07     |
| 1656  | 1.2D+1L+1E      | Combination | Max      | 8.021280  | 2.698117  | 2.125997  | 0.000352      | 0.001057      |
| 1656  | 1.2D+1L+1E      | Combination | Min      | -7.904047 | -2.771118 | -3.407238 | -0.000383     | -0.001059     |
| 1656  | 0.9D+1E         | Combination | Max      | 7.998345  | 2.718118  | 2.325413  | 0.000359      | 0.001057      |
| 1656  | 0.9D+1E         | Combination | Min      | -7.926982 | -2.751117 | -3.207822 | -0.000375     | -0.001059     |
| 1656  | 1.2D+1L+1E      | Combination | Max      | 2.115764  | 4.782932  | 0.568906  | 0.000661      | 0.000274      |
| 1656  | 1.2D+1L+1E<br>y | Combination | Min      | -1.998531 | -4.855933 | -1.850147 | -0.000692     | -0.000275     |
| 1656  | 0.9D+1Ey        | Combination | Max      | 2.092829  | 4.802933  | 0.768322  | 0.000668      | 0.000273      |
| 1656  | 0.9D+1Ey        | Combination | Min      | -2.021466 | -4.835932 | -1.650731 | -0.000685     | -0.000276     |
| 1656  | 1D+0.5L         | Combination |          | 0.045167  | -0.025583 | -0.516401 | -0.000011     | -8.358E-07    |
| 1657  | 1.4D            | Combination |          | 0.020420  | 0.000324  | -0.778488 | 7.157E-06     | 7.183E-06     |
| 1657  | 1.2D+1.6L       | Combination |          | 0.027755  | -0.009302 | -0.784153 | 8.780E-06     | 8.227E-06     |
| 1657  | 1.2D+1L+1E      | Combination | Max      | 8.385023  | 1.741365  | 0.047215  | 0.000245      | 0.001150      |
| 1657  | 1.2D+1L+1E      | Combination | Min      | -8.337202 | -1.752784 | -1.527862 | -0.000229     | -0.001135     |
| 1657  | 0.9D+1E         | Combination | Max      | 8.374239  | 1.747283  | 0.287082  | 0.000242      | 0.001147      |
| 1657  | 0.9D+1E         | Combination | Min      | -8.347986 | -1.746866 | -1.287995 | -0.000232     | -0.001137     |
| 1657  | 1.2D+1L+1E      | Combination | Max      | 2.191694  | 4.863958  | 0.683554  | 0.000667      | 0.000303      |
| 1657  | 1.2D+1L+1E<br>y | Combination | Min      | -2.143873 | -4.875377 | -2.164202 | -0.000651     | -0.000288     |
| 1657  | 0.9D+1Ey        | Combination | Max      | 2.180911  | 4.869876  | 0.923421  | 0.000664      | 0.000300      |
| 1657  | 0.9D+1Ey        | Combination | Min      | -2.154657 | -4.869459 | -1.924335 | -0.000654     | -0.000291     |
| 1657  | 1D+0.5L         | Combination |          | 0.017789  | -0.002762 | -0.592587 | 5.939E-06     | 5.777E-06     |
| 1658  | 1.4D            | Combination |          | 0.049812  | -0.024179 | -0.793227 | -0.000021     | 5.684E-06     |
| 1658  | 1.2D+1.6L       | Combination |          | 0.057438  | -0.032616 | -0.801950 | -0.000029     | 7.155E-06     |
| 1658  | 1.2D+1L+1E      | Combination | Max      | 8.426462  | 1.688304  | 1.091462  | 0.000177      | 0.001134      |
| 1658  | 1.2D+1L+1E      | Combination | Min      | -8.322643 | -1.744618 | -2.603831 | -0.000227     | -0.001122     |
| 1658  | 0.9D+1E         | Combination | Max      | 8.406575  | 1.700917  | 1.337715  | 0.000189      | 0.001132      |
| 1658  | 0.9D+1E         | Combination | Min      | -8.342530 | -1.732004 | -2.357578 | -0.000215     | -0.001124     |
| 1658  | 1.2D+1L+1E      | Combination | Max      | 2.221807  | 4.846199  | 0.699454  | 0.000536      | 0.000298      |
| 1658  | 1.2D+1L+1E<br>y | Combination | Min      | -2.117988 | -4.902513 | -2.211823 | -0.000585     | -0.000286     |
| 1658  | 0.9D+1Ey        | Combination | Max      | 2.201920  | 4.858813  | 0.945707  | 0.000547      | 0.000296      |
| 1658  | 0.9D+1Ey        | Combination | Min      | -2.137875 | -4.889900 | -1.965569 | -0.000574     | -0.000288     |
| 1658  | 1D+0.5L         | Combination |          | 0.040187  | -0.020987 | -0.604728 | -0.000018     | 4.773E-06     |
| 1659  | 1.4D            | Combination |          | 0.022285  | -0.057521 | -0.801509 | 5.083E-06     | 8.153E-06     |
| 1659  | 1.2D+1.6L       | Combination |          | 0.032545  | -0.067854 | -0.813670 | 6.220E-06     | 9.886E-06     |
| 1659  | 1.2D+1L+1E      | Combination | Max      | 8.046057  | 1.690074  | 0.106727  | 0.000244      | 0.001098      |
| 1659  | 1.2D+1L+1E      | Combination | Min      | -7.991049 | -1.811869 | -1.639071 | -0.000233     | -0.001080     |
| 1659  | 0.9D+1E         | Combination | Max      | 8.032879  | 1.713994  | 0.357643  | 0.000242      | 0.001094      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1659  | 0.9D+1E         | Combination | Min      | -8.004226 | -1.787949 | -1.388155 | -0.000235     | -0.001083     |
| 1659  | 1.2D+1L+1E<br>y | Combination | Max      | 2.097407  | 4.808812  | 0.620822  | 0.000668      | 0.000290      |
| 1659  | 1.2D+1L+1E<br>y | Combination | Min      | -2.042399 | -4.930607 | -2.153165 | -0.000657     | -0.000272     |
| 1659  | 0.9D+1Ey        | Combination | Max      | 2.084229  | 4.832732  | 0.871738  | 0.000665      | 0.000286      |
| 1659  | 0.9D+1Ey        | Combination | Min      | -2.055577 | -4.906687 | -1.902250 | -0.000659     | -0.000276     |
| 1659  | 1D+0.5L         | Combination |          | 0.020119  | -0.046883 | -0.612088 | 4.213E-06     | 6.729E-06     |
| 1660  | 1.4D            | Combination |          | 0.050938  | -0.030061 | -0.818961 | 0.000023      | 8.001E-06     |
| 1660  | 1.2D+1.6L       | Combination |          | 0.061712  | -0.038550 | -0.835219 | 0.000032      | 0.000010      |
| 1660  | 1.2D+1L+1E      | Combination | Max      | 8.081719  | 1.682905  | 0.845852  | 0.000233      | 0.001070      |
| 1660  | 1.2D+1L+1E      | Combination | Min      | -7.971832 | -1.750417 | -2.416351 | -0.000178     | -0.001052     |
| 1660  | 0.9D+1E         | Combination | Max      | 8.059521  | 1.697336  | 1.104627  | 0.000220      | 0.001066      |
| 1660  | 0.9D+1E         | Combination | Min      | -7.994030 | -1.735986 | -2.157577 | -0.000191     | -0.001056     |
| 1660  | 1.2D+1L+1E<br>y | Combination | Max      | 2.127604  | 4.840639  | 0.619836  | 0.000609      | 0.000283      |
| 1660  | 1.2D+1L+1E<br>y | Combination | Min      | -2.017717 | -4.908151 | -2.190335 | -0.000554     | -0.000265     |
| 1660  | 0.9D+1Ey        | Combination | Max      | 2.105406  | 4.855070  | 0.878611  | 0.000596      | 0.000279      |
| 1660  | 0.9D+1Ey        | Combination | Min      | -2.039915 | -4.893720 | -1.931560 | -0.000567     | -0.000269     |
| 1660  | 1D+0.5L         | Combination |          | 0.042025  | -0.025467 | -0.626614 | 0.000020      | 6.751E-06     |
| 1661  | 1.4D            | Combination |          | 0.044929  | 0.014533  | -0.765133 | 3.149E-06     | 2.711E-06     |
| 1661  | 1.2D+1.6L       | Combination |          | 0.052585  | 0.021481  | -0.777174 | 2.188E-06     | 2.604E-06     |
| 1661  | 1.2D+1L+1E      | Combination | Max      | 8.404564  | 3.515235  | 0.321276  | 0.000450      | 0.001094      |
| 1661  | 1.2D+1L+1E      | Combination | Min      | -8.309951 | -3.479042 | -1.784615 | -0.000445     | -0.001089     |
| 1661  | 0.9D+1E         | Combination | Max      | 8.386141  | 3.506481  | 0.561075  | 0.000450      | 0.001094      |
| 1661  | 0.9D+1E         | Combination | Min      | -8.328375 | -3.487796 | -1.544817 | -0.000446     | -0.001090     |
| 1661  | 1.2D+1L+1E<br>y | Combination | Max      | 2.213759  | 5.089454  | 0.968859  | 0.000656      | 0.000285      |
| 1661  | 1.2D+1L+1E<br>y | Combination | Min      | -2.119145 | -5.053261 | -2.432198 | -0.000651     | -0.000280     |
| 1661  | 0.9D+1Ey        | Combination | Max      | 2.195335  | 5.080700  | 1.208657  | 0.000656      | 0.000284      |
| 1661  | 0.9D+1Ey        | Combination | Min      | -2.137569 | -5.062015 | -2.192399 | -0.000652     | -0.000281     |
| 1661  | 1D+0.5L         | Combination |          | 0.036490  | 0.013200  | -0.584444 | 2.090E-06     | 2.024E-06     |
| 1662  | 1.4D            | Combination |          | 0.082055  | -0.038881 | -0.772726 | 3.865E-06     | -2.734E-06    |
| 1662  | 1.2D+1.6L       | Combination |          | 0.092773  | -0.032636 | -0.780598 | 3.653E-06     | -1.206E-06    |
| 1662  | 1.2D+1L+1E      | Combination | Max      | 8.016639  | 3.479846  | 0.749759  | 0.000474      | 0.001091      |
| 1662  | 1.2D+1L+1E      | Combination | Min      | -7.847923 | -3.545635 | -2.222259 | -0.000467     | -0.001094     |
| 1662  | 0.9D+1E         | Combination | Max      | 7.985031  | 3.487745  | 0.989256  | 0.000473      | 0.001091      |
| 1662  | 0.9D+1E         | Combination | Min      | -7.879532 | -3.537735 | -1.982761 | -0.000468     | -0.001094     |
| 1662  | 1.2D+1L+1E<br>y | Combination | Max      | 2.134934  | 5.031433  | 0.523710  | 0.000685      | 0.000280      |
| 1662  | 1.2D+1L+1E<br>y | Combination | Min      | -1.966218 | -5.097222 | -1.996210 | -0.000678     | -0.000283     |
| 1662  | 0.9D+1Ey        | Combination | Max      | 2.103326  | 5.039332  | 0.763207  | 0.000684      | 0.000280      |
| 1662  | 0.9D+1Ey        | Combination | Min      | -1.997826 | -5.089322 | -1.756712 | -0.000679     | -0.000283     |
| 1662  | 1D+0.5L         | Combination |          | 0.065623  | -0.027556 | -0.588904 | 2.867E-06     | -1.598E-06    |
| 1663  | 1.4D            | Combination |          | 0.104497  | -0.069664 | -0.841934 | 0.000022      | 2.482E-06     |
| 1663  | 1.2D+1.6L       | Combination |          | 0.130731  | -0.085766 | -0.864411 | 0.000031      | 6.146E-06     |
| 1663  | 1.2D+1L+1E      | Combination | Max      | 7.165969  | 2.195770  | 1.949786  | 0.000336      | 0.000939      |
| 1663  | 1.2D+1L+1E      | Combination | Min      | -6.935378 | -2.347762 | -3.571543 | -0.000283     | -0.000930     |
| 1663  | 0.9D+1E         | Combination | Max      | 7.117850  | 2.226982  | 2.219422  | 0.000324      | 0.000936      |
| 1663  | 0.9D+1E         | Combination | Min      | -6.983497 | -2.316550 | -3.301908 | -0.000295     | -0.000933     |
| 1663  | 1.2D+1L+1E<br>y | Combination | Max      | 1.937785  | 4.807641  | 0.373164  | 0.000666      | 0.000247      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1663  | 1.2D+1L+1E<br>y | Combination | Min      | -1.707195 | -4.959633 | -1.994920 | -0.000613     | -0.000238     |
| 1663  | 0.9D+1Ey        | Combination | Max      | 1.889666  | 4.838853  | 0.642799  | 0.000654      | 0.000244      |
| 1663  | 0.9D+1Ey        | Combination | Min      | -1.755314 | -4.928421 | -1.725285 | -0.000625     | -0.000241     |
| 1663  | 1D+0.5L         | Combination |          | 0.087504  | -0.057902 | -0.645992 | 0.000019      | 3.028E-06     |
| 1664  | 1.4D            | Combination |          | 0.040712  | -0.033322 | -0.796007 | 0.000010      | 0.000021      |
| 1664  | 1.2D+1.6L       | Combination |          | 0.065699  | -0.051039 | -0.804330 | 0.000013      | 0.000024      |
| 1664  | 1.2D+1L+1E      | Combination | Max      | 7.054103  | 2.545257  | 0.279451  | 0.000366      | 0.000987      |
| 1664  | 1.2D+1L+1E      | Combination | Min      | -6.945807 | -2.630477 | -1.796583 | -0.000343     | -0.000943     |
| 1664  | 0.9D+1E         | Combination | Max      | 7.026127  | 2.566446  | 0.526298  | 0.000361      | 0.000979      |
| 1664  | 0.9D+1E         | Combination | Min      | -6.973783 | -2.609289 | -1.549736 | -0.000348     | -0.000952     |
| 1664  | 1.2D+1L+1E<br>y | Combination | Max      | 1.864052  | 4.831810  | 0.276133  | 0.000684      | 0.000271      |
| 1664  | 1.2D+1L+1E<br>y | Combination | Min      | -1.755756 | -4.917030 | -1.793264 | -0.000662     | -0.000228     |
| 1664  | 0.9D+1Ey        | Combination | Max      | 1.836076  | 4.852999  | 0.522980  | 0.000680      | 0.000263      |
| 1664  | 0.9D+1Ey        | Combination | Min      | -1.783732 | -4.895842 | -1.546417 | -0.000667     | -0.000236     |
| 1664  | 1D+0.5L         | Combination |          | 0.038706  | -0.030825 | -0.606714 | 8.584E-06     | 0.000017      |
| 1665  | 1.4D            | Combination |          | 0.086445  | -0.097049 | -0.850593 | 0.000014      | -0.000044     |
| 1665  | 1.2D+1.6L       | Combination |          | 0.115086  | -0.116061 | -0.875513 | 0.000019      | -0.000059     |
| 1665  | 1.2D+1L+1E      | Combination | Max      | 7.154686  | 2.501673  | 0.578604  | 0.000367      | 0.000668      |
| 1665  | 1.2D+1L+1E      | Combination | Min      | -6.955257 | -2.709137 | -2.219806 | -0.000334     | -0.000770     |
| 1665  | 0.9D+1E         | Combination | Max      | 7.110543  | 2.543016  | 0.852395  | 0.000360      | 0.000690      |
| 1665  | 0.9D+1E         | Combination | Min      | -6.999400 | -2.667793 | -1.946015 | -0.000342     | -0.000747     |
| 1665  | 1.2D+1L+1E<br>y | Combination | Max      | 1.935251  | 4.797983  | 1.203844  | 0.000682      | 0.000142      |
| 1665  | 1.2D+1L+1E<br>y | Combination | Min      | -1.735822 | -5.005447 | -2.845046 | -0.000649     | -0.000244     |
| 1665  | 0.9D+1Ey        | Combination | Max      | 1.891108  | 4.839326  | 1.477635  | 0.000675      | 0.000165      |
| 1665  | 0.9D+1Ey        | Combination | Min      | -1.779964 | -4.964103 | -2.571255 | -0.000656     | -0.000222     |
| 1665  | 1D+0.5L         | Combination |          | 0.074556  | -0.079594 | -0.653327 | 0.000012      | -0.000038     |
| 1666  | 1.4D            | Combination |          | 0.090765  | -0.033835 | -0.755312 | -0.000030     | 0.000012      |
| 1666  | 1.2D+1.6L       | Combination |          | 0.116507  | -0.042094 | -0.772180 | -0.000041     | 0.000016      |
| 1666  | 1.2D+1L+1E      | Combination | Max      | 7.205693  | 1.678078  | 0.840607  | 0.000168      | 0.000958      |
| 1666  | 1.2D+1L+1E      | Combination | Min      | -7.001711 | -1.752446 | -2.291390 | -0.000238     | -0.000930     |
| 1666  | 0.9D+1E         | Combination | Max      | 7.162051  | 1.693511  | 1.080441  | 0.000184      | 0.000952      |
| 1666  | 0.9D+1E         | Combination | Min      | -7.045353 | -1.737013 | -2.051556 | -0.000223     | -0.000936     |
| 1666  | 1.2D+1L+1E<br>y | Combination | Max      | 1.938158  | 4.833167  | 0.751551  | 0.000541      | 0.000259      |
| 1666  | 1.2D+1L+1E<br>y | Combination | Min      | -1.734175 | -4.907535 | -2.202334 | -0.000612     | -0.000230     |
| 1666  | 0.9D+1Ey        | Combination | Max      | 1.894515  | 4.848600  | 0.991385  | 0.000557      | 0.000252      |
| 1666  | 0.9D+1Ey        | Combination | Min      | -1.777817 | -4.892102 | -1.962500 | -0.000596     | -0.000236     |
| 1666  | 1D+0.5L         | Combination |          | 0.076929  | -0.028259 | -0.578499 | -0.000026     | 0.000011      |
| 1667  | 1.4D            | Combination |          | 0.061978  | -0.014007 | -0.727750 | 5.745E-06     | 0.000013      |
| 1667  | 1.2D+1.6L       | Combination |          | 0.087209  | -0.023306 | -0.736173 | 7.448E-06     | 0.000017      |
| 1667  | 1.2D+1L+1E      | Combination | Max      | 7.166542  | 1.728530  | 0.055411  | 0.000243      | 0.000983      |
| 1667  | 1.2D+1L+1E      | Combination | Min      | -7.017688 | -1.766667 | -1.443466 | -0.000230     | -0.000953     |
| 1667  | 0.9D+1E         | Combination | Max      | 7.131958  | 1.738594  | 0.281599  | 0.000240      | 0.000977      |
| 1667  | 0.9D+1E         | Combination | Min      | -7.052272 | -1.756603 | -1.217278 | -0.000233     | -0.000960     |
| 1667  | 1.2D+1L+1E<br>y | Combination | Max      | 1.907319  | 4.858741  | 0.769393  | 0.000666      | 0.000265      |
| 1667  | 1.2D+1L+1E<br>y | Combination | Min      | -1.758464 | -4.896879 | -2.157448 | -0.000653     | -0.000235     |
| 1667  | 0.9D+1Ey        | Combination | Max      | 1.872735  | 4.868805  | 0.995581  | 0.000663      | 0.000259      |
| 1667  | 0.9D+1Ey        | Combination | Min      | -1.793049 | -4.886815 | -1.931260 | -0.000656     | -0.000241     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1667  | 1D+0.5L    | Combination |          | 0.054922  | -0.013536 | -0.554942 | 4.892E-06     | 0.000011      |
| 1668  | 1.4D       | Combination |          | 0.079700  | -0.071551 | -0.751971 | 4.879E-06     | 0.000015      |
| 1668  | 1.2D+1.6L  | Combination |          | 0.108133  | -0.081883 | -0.767669 | 6.514E-06     | 0.000019      |
| 1668  | 1.2D+1L+1E | Combination | Max      | 7.160278  | 1.673904  | 0.036104  | 0.000241      | 0.000972      |
| 1668  | 1.2D+1L+1E | Combination | Min      | -6.973875 | -1.822254 | -1.479100 | -0.000230     | -0.000939     |
| 1668  | 0.9D+1E    | Combination | Max      | 7.118313  | 1.702082  | 0.274192  | 0.000239      | 0.000965      |
| 1668  | 0.9D+1E    | Combination | Min      | -7.015841 | -1.794076 | -1.241011 | -0.000233     | -0.000946     |
| 1668  | 1.2D+1L+1E | Combination | Max      | 1.932115  | 4.803653  | 0.742688  | 0.000663      | 0.000265      |
|       | y          |             |          |           |           |           |               |               |
| 1668  | 1.2D+1L+1E | Combination | Min      | -1.745712 | -4.952003 | -2.185684 | -0.000652     | -0.000232     |
|       | y          |             |          |           |           |           |               |               |
| 1668  | 0.9D+1Ey   | Combination | Max      | 1.890149  | 4.831832  | 0.980777  | 0.000661      | 0.000258      |
| 1668  | 0.9D+1Ey   | Combination | Min      | -1.787678 | -4.923825 | -1.947596 | -0.000655     | -0.000239     |
| 1668  | 1D+0.5L    | Combination |          | 0.069372  | -0.057531 | -0.575598 | 4.214E-06     | 0.000012      |
| 1669  | 1.4D       | Combination |          | 0.106006  | -0.039030 | -0.781413 | 7.492E-06     | 0.000014      |
| 1669  | 1.2D+1.6L  | Combination |          | 0.135164  | -0.047294 | -0.806536 | 9.383E-06     | 0.000018      |
| 1669  | 1.2D+1L+1E | Combination | Max      | 7.194863  | 1.673483  | 0.790880  | 0.000239      | 0.000953      |
| 1669  | 1.2D+1L+1E | Combination | Min      | -6.957761 | -1.757691 | -2.301387 | -0.000222     | -0.000922     |
| 1669  | 0.9D+1E    | Combination | Max      | 7.144459  | 1.690496  | 1.043796  | 0.000236      | 0.000946      |
| 1669  | 0.9D+1E    | Combination | Min      | -7.008165 | -1.740677 | -2.048471 | -0.000226     | -0.000929     |
| 1669  | 1.2D+1L+1E | Combination | Max      | 1.959342  | 4.829003  | 0.721629  | 0.000657      | 0.000260      |
|       | y          |             |          |           |           |           |               |               |
| 1669  | 1.2D+1L+1E | Combination | Min      | -1.722239 | -4.913211 | -2.232136 | -0.000640     | -0.000228     |
|       | y          |             |          |           |           |           |               |               |
| 1669  | 0.9D+1Ey   | Combination | Max      | 1.908938  | 4.846016  | 0.974545  | 0.000654      | 0.000253      |
| 1669  | 0.9D+1Ey   | Combination | Min      | -1.772644 | -4.896197 | -1.979219 | -0.000644     | -0.000235     |
| 1669  | 1D+0.5L    | Combination |          | 0.089563  | -0.032203 | -0.600888 | 6.277E-06     | 0.000012      |
| 1670  | 1.4D       | Combination |          | 0.072298  | 0.012049  | -0.643369 | 0.000015      | 0.000020      |
| 1670  | 1.2D+1.6L  | Combination |          | 0.098533  | 0.017823  | -0.601753 | 0.000022      | 0.000022      |
| 1670  | 1.2D+1L+1E | Combination | Max      | 7.117902  | 2.783725  | 2.131618  | 0.000389      | 0.000952      |
| 1670  | 1.2D+1L+1E | Combination | Min      | -6.948259 | -2.753700 | -3.297404 | -0.000352     | -0.000911     |
| 1670  | 0.9D+1E    | Combination | Max      | 7.079558  | 2.776458  | 2.300916  | 0.000380      | 0.000944      |
| 1670  | 0.9D+1E    | Combination | Min      | -6.986603 | -2.760966 | -3.128106 | -0.000360     | -0.000919     |
| 1670  | 1.2D+1L+1E | Combination | Max      | 1.903889  | 4.828757  | 0.505793  | 0.000646      | 0.000263      |
|       | y          |             |          |           |           |           |               |               |
| 1670  | 1.2D+1L+1E | Combination | Min      | -1.734246 | -4.798732 | -1.671578 | -0.000609     | -0.000222     |
|       | y          |             |          |           |           |           |               |               |
| 1670  | 0.9D+1Ey   | Combination | Max      | 1.865545  | 4.821490  | 0.675091  | 0.000638      | 0.000255      |
| 1670  | 0.9D+1Ey   | Combination | Min      | -1.772590 | -4.805998 | -1.502280 | -0.000618     | -0.000230     |
| 1670  | 1D+0.5L    | Combination |          | 0.063067  | 0.010949  | -0.475266 | 0.000014      | 0.000016      |
| 1671  | 1.4D       | Combination |          | 0.124575  | 0.036931  | -0.686146 | -1.790E-06    | 2.637E-06     |
| 1671  | 1.2D+1.6L  | Combination |          | 0.148067  | 0.045051  | -0.657755 | -3.364E-06    | 6.656E-06     |
| 1671  | 1.2D+1L+1E | Combination | Max      | 7.113924  | 3.129195  | 0.477065  | 0.000420      | 0.000973      |
| 1671  | 1.2D+1L+1E | Combination | Min      | -6.848757 | -3.049140 | -1.740352 | -0.000426     | -0.000963     |
| 1671  | 0.9D+1E    | Combination | Max      | 7.061424  | 3.112909  | 0.667614  | 0.000422      | 0.000970      |
| 1671  | 0.9D+1E    | Combination | Min      | -6.901257 | -3.065426 | -1.549802 | -0.000424     | -0.000966     |
| 1671  | 1.2D+1L+1E | Combination | Max      | 1.941782  | 4.779072  | 0.324544  | 0.000658      | 0.000255      |
|       | y          |             |          |           |           |           |               |               |
| 1671  | 1.2D+1L+1E | Combination | Min      | -1.676614 | -4.699017 | -1.587831 | -0.000664     | -0.000245     |
|       | y          |             |          |           |           |           |               |               |
| 1671  | 0.9D+1Ey   | Combination | Max      | 1.889282  | 4.762786  | 0.515093  | 0.000660      | 0.000252      |
| 1671  | 0.9D+1Ey   | Combination | Min      | -1.729114 | -4.715303 | -1.397282 | -0.000662     | -0.000248     |
| 1671  | 1D+0.5L    | Combination |          | 0.101885  | 0.030565  | -0.511864 | -1.850E-06    | 3.257E-06     |
| 1672  | 1.4D       | Combination |          | 0.078122  | -0.023940 | -0.681699 | -1.612E-06    | 2.062E-06     |
| 1672  | 1.2D+1.6L  | Combination |          | 0.107941  | -0.013173 | -0.647785 | -2.727E-06    | 2.703E-06     |
| 1672  | 1.2D+1L+1E | Combination | Max      | 7.162899  | 3.101965  | 1.025339  | 0.000421      | 0.000879      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1672  | 1.2D+1L+1E      | Combination | Min      | -6.977752  | -3.133821 | -2.273305 | -0.000426     | -0.000875     |
| 1672  | 0.9D+1E         | Combination | Max      | 7.120547   | 3.102504  | 1.211087  | 0.000423      | 0.000878      |
| 1672  | 0.9D+1E         | Combination | Min      | -7.020105  | -3.133283 | -2.087557 | -0.000425     | -0.000876     |
| 1672  | 1.2D+1L+1E<br>y | Combination | Max      | 1.932059   | 4.762563  | 1.437499  | 0.000659      | 0.000238      |
| 1672  | 1.2D+1L+1E<br>y | Combination | Min      | -1.746912  | -4.794419 | -2.685466 | -0.000663     | -0.000233     |
| 1672  | 0.9D+1Ey        | Combination | Max      | 1.889707   | 4.763101  | 1.623247  | 0.000660      | 0.000237      |
| 1672  | 0.9D+1Ey        | Combination | Min      | -1.789264  | -4.793880 | -2.499718 | -0.000662     | -0.000234     |
| 1672  | 1D+0.5L         | Combination |          | 0.068607   | -0.014804 | -0.506763 | -1.572E-06    | 1.766E-06     |
| 1673  | 1.4D            | Combination |          | 0.051719   | -0.035819 | -0.772657 | 7.964E-06     | 0.000022      |
| 1673  | 1.2D+1.6L       | Combination |          | 0.063576   | -0.069534 | -0.730786 | 0.000012      | 0.000030      |
| 1673  | 1.2D+1L+1E      | Combination | Max      | 12.188959  | 4.543710  | 0.563867  | 0.000487      | 0.001290      |
| 1673  | 1.2D+1L+1E      | Combination | Min      | -12.076240 | -4.653654 | -1.974058 | -0.000468     | -0.001238     |
| 1673  | 0.9D+1E         | Combination | Max      | 12.165848  | 4.575655  | 0.772255  | 0.000483      | 0.001278      |
| 1673  | 0.9D+1E         | Combination | Min      | -12.099351 | -4.621709 | -1.765671 | -0.000472     | -0.001250     |
| 1673  | 1.2D+1L+1E<br>y | Combination | Max      | 3.198423   | 7.010587  | 1.360563  | 0.000761      | 0.000353      |
| 1673  | 1.2D+1L+1E<br>y | Combination | Min      | -3.085704  | -7.120531 | -2.770753 | -0.000741     | -0.000301     |
| 1673  | 0.9D+1Ey        | Combination | Max      | 3.175312   | 7.042532  | 1.568950  | 0.000756      | 0.000341      |
| 1673  | 0.9D+1Ey        | Combination | Min      | -3.108816  | -7.088586 | -2.562366 | -0.000746     | -0.000313     |
| 1673  | 1D+0.5L         | Combination |          | 0.042957   | -0.037720 | -0.573307 | 7.150E-06     | 0.000019      |
| 1674  | 1.4D            | Combination |          | 0.027625   | -0.086981 | -0.809241 | 8.493E-06     | 1.975E-06     |
| 1674  | 1.2D+1.6L       | Combination |          | 0.044407   | -0.118560 | -0.783264 | 0.000013      | 4.253E-06     |
| 1674  | 1.2D+1L+1E      | Combination | Max      | 11.587326  | 4.512458  | 0.964491  | 0.000504      | 0.001221      |
| 1674  | 1.2D+1L+1E      | Combination | Min      | -11.514059 | -4.716575 | -2.463798 | -0.000482     | -0.001215     |
| 1674  | 0.9D+1E         | Combination | Max      | 11.568452  | 4.558600  | 1.193918  | 0.000498      | 0.001219      |
| 1674  | 0.9D+1E         | Combination | Min      | -11.532934 | -4.670433 | -2.234370 | -0.000487     | -0.001217     |
| 1674  | 1.2D+1L+1E<br>y | Combination | Max      | 3.018305   | 6.948729  | 0.550400  | 0.000783      | 0.000318      |
| 1674  | 1.2D+1L+1E<br>y | Combination | Min      | -2.945037  | -7.152845 | -2.049707 | -0.000761     | -0.000311     |
| 1674  | 0.9D+1Ey        | Combination | Max      | 2.999430   | 6.994870  | 0.779828  | 0.000777      | 0.000316      |
| 1674  | 0.9D+1Ey        | Combination | Min      | -2.963912  | -7.106703 | -1.820280 | -0.000767     | -0.000313     |
| 1674  | 1D+0.5L         | Combination |          | 0.026210   | -0.075881 | -0.606038 | 7.786E-06     | 2.211E-06     |
| 1675  | 1.4D            | Combination |          | 0.077160   | -0.048455 | -0.844107 | -0.000010     | 0.000016      |
| 1675  | 1.2D+1.6L       | Combination |          | 0.092695   | -0.077648 | -0.826570 | -0.000016     | 0.000018      |
| 1675  | 1.2D+1L+1E      | Combination | Max      | 11.660882  | 3.925759  | 2.356498  | 0.000402      | 0.001236      |
| 1675  | 1.2D+1L+1E      | Combination | Min      | -11.495411 | -4.053969 | -3.932350 | -0.000428     | -0.001203     |
| 1675  | 0.9D+1E         | Combination | Max      | 11.627749  | 3.958715  | 2.601784  | 0.000409      | 0.001230      |
| 1675  | 0.9D+1E         | Combination | Min      | -11.528544 | -4.021014 | -3.687064 | -0.000422     | -0.001210     |
| 1675  | 1.2D+1L+1E<br>y | Combination | Max      | 3.071976   | 7.011450  | 0.633933  | 0.000764      | 0.000331      |
| 1675  | 1.2D+1L+1E<br>y | Combination | Min      | -2.906505  | -7.139660 | -2.209785 | -0.000790     | -0.000298     |
| 1675  | 0.9D+1Ey        | Combination | Max      | 3.038843   | 7.044406  | 0.879219  | 0.000771      | 0.000325      |
| 1675  | 0.9D+1Ey        | Combination | Min      | -2.939638  | -7.106705 | -1.964499 | -0.000784     | -0.000304     |
| 1675  | 1D+0.5L         | Combination |          | 0.063413   | -0.045897 | -0.635137 | -9.489E-06    | 0.000013      |
| 1676  | 1.4D            | Combination |          | 0.042910   | -0.018917 | -0.956221 | 6.093E-06     | 6.478E-06     |
| 1676  | 1.2D+1.6L       | Combination |          | 0.054560   | -0.033837 | -0.963344 | 8.025E-06     | 7.713E-06     |
| 1676  | 1.2D+1L+1E      | Combination | Max      | 12.186582  | 2.532209  | -0.002630 | 0.000283      | 0.001290      |
| 1676  | 1.2D+1L+1E      | Combination | Min      | -12.090797 | -2.586665 | -1.816264 | -0.000269     | -0.001276     |
| 1676  | 0.9D+1E         | Combination | Max      | 12.166275  | 2.547276  | 0.292103  | 0.000280      | 0.001287      |
| 1676  | 0.9D+1E         | Combination | Min      | -12.111105 | -2.571598 | -1.521531 | -0.000272     | -0.001279     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1676  | 1.2D+1L+1E<br>y | Combination | Max      | 3.191875   | 7.101413  | 0.746629  | 0.000774      | 0.000338      |
| 1676  | 1.2D+1L+1E<br>y | Combination | Min      | -3.096090  | -7.155870 | -2.565522 | -0.000760     | -0.000324     |
| 1676  | 0.9D+1Ey        | Combination | Max      | 3.171567   | 7.116481  | 1.041362  | 0.000771      | 0.000336      |
| 1676  | 0.9D+1Ey        | Combination | Min      | -3.116397  | -7.140803 | -2.270789 | -0.000763     | -0.000327     |
| 1676  | 1D+0.5L         | Combination |          | 0.036206   | -0.019019 | -0.727930 | 5.228E-06     | 5.302E-06     |
| 1677  | 1.4D            | Combination |          | 0.071132   | -0.041178 | -0.974181 | -0.000016     | 9.568E-06     |
| 1677  | 1.2D+1.6L       | Combination |          | 0.083064   | -0.054203 | -0.984980 | -0.000024     | 0.000011      |
| 1677  | 1.2D+1L+1E      | Combination | Max      | 12.222834  | 2.466000  | 1.151432  | 0.000211      | 0.001283      |
| 1677  | 1.2D+1L+1E      | Combination | Min      | -12.073277 | -2.560226 | -3.008917 | -0.000252     | -0.001263     |
| 1677  | 0.9D+1E         | Combination | Max      | 12.193783  | 2.486641  | 1.453915  | 0.000221      | 0.001279      |
| 1677  | 0.9D+1E         | Combination | Min      | -12.102328 | -2.539585 | -2.706434 | -0.000242     | -0.001267     |
| 1677  | 1.2D+1L+1E<br>y | Combination | Max      | 3.220060   | 7.089082  | 0.771749  | 0.000623      | 0.000339      |
| 1677  | 1.2D+1L+1E<br>y | Combination | Min      | -3.070503  | -7.183307 | -2.629234 | -0.000664     | -0.000319     |
| 1677  | 0.9D+1Ey        | Combination | Max      | 3.191009   | 7.109723  | 1.074232  | 0.000633      | 0.000335      |
| 1677  | 0.9D+1Ey        | Combination | Min      | -3.099554  | -7.162666 | -2.326751 | -0.000654     | -0.000323     |
| 1677  | 1D+0.5L         | Combination |          | 0.057713   | -0.035322 | -0.742709 | -0.000015     | 7.845E-06     |
| 1678  | 1.4D            | Combination |          | 0.046858   | -0.074374 | -0.985235 | 4.499E-06     | 8.040E-06     |
| 1678  | 1.2D+1.6L       | Combination |          | 0.062861   | -0.089993 | -1.000405 | 5.956E-06     | 0.000010      |
| 1678  | 1.2D+1L+1E      | Combination | Max      | 11.693240  | 2.482436  | 0.064076  | 0.000282      | 0.001235      |
| 1678  | 1.2D+1L+1E      | Combination | Min      | -11.584541 | -2.642739 | -1.947948 | -0.000272     | -0.001217     |
| 1678  | 0.9D+1E         | Combination | Max      | 11.669013  | 2.514776  | 0.372647  | 0.000280      | 0.001231      |
| 1678  | 0.9D+1E         | Combination | Min      | -11.608767 | -2.610399 | -1.639378 | -0.000274     | -0.001221     |
| 1678  | 1.2D+1L+1E<br>y | Combination | Max      | 3.057244   | 7.048705  | 0.672527  | 0.000775      | 0.000325      |
| 1678  | 1.2D+1L+1E<br>y | Combination | Min      | -2.948544  | -7.209008 | -2.556399 | -0.000765     | -0.000307     |
| 1678  | 0.9D+1Ey        | Combination | Max      | 3.033017   | 7.081045  | 0.981098  | 0.000773      | 0.000321      |
| 1678  | 0.9D+1Ey        | Combination | Min      | -2.972771  | -7.176668 | -2.247829 | -0.000767     | -0.000311     |
| 1678  | 1D+0.5L         | Combination |          | 0.040563   | -0.061325 | -0.752464 | 3.869E-06     | 6.722E-06     |
| 1679  | 1.4D            | Combination |          | 0.074395   | -0.046870 | -1.006402 | 0.000020      | 0.000012      |
| 1679  | 1.2D+1.6L       | Combination |          | 0.090901   | -0.059953 | -1.026431 | 0.000030      | 0.000014      |
| 1679  | 1.2D+1L+1E      | Combination | Max      | 11.725278  | 2.460573  | 0.868888  | 0.000260      | 0.001211      |
| 1679  | 1.2D+1L+1E      | Combination | Min      | -11.563827 | -2.565645 | -2.798900 | -0.000211     | -0.001185     |
| 1679  | 0.9D+1E         | Combination | Max      | 11.692377  | 2.482978  | 1.186921  | 0.000248      | 0.001205      |
| 1679  | 0.9D+1E         | Combination | Min      | -11.596727 | -2.543240 | -2.480866 | -0.000223     | -0.001190     |
| 1679  | 1.2D+1L+1E<br>y | Combination | Max      | 3.085644   | 7.083212  | 0.668963  | 0.000692      | 0.000322      |
| 1679  | 1.2D+1L+1E<br>y | Combination | Min      | -2.924193  | -7.188284 | -2.598975 | -0.000643     | -0.000297     |
| 1679  | 0.9D+1Ey        | Combination | Max      | 3.052744   | 7.105617  | 0.986996  | 0.000680      | 0.000317      |
| 1679  | 0.9D+1Ey        | Combination | Min      | -2.957093  | -7.165879 | -2.280941 | -0.000655     | -0.000302     |
| 1679  | 1D+0.5L         | Combination |          | 0.061618   | -0.039660 | -0.770046 | 0.000018      | 9.626E-06     |
| 1680  | 1.4D            | Combination |          | 0.066439   | 0.007855  | -0.938481 | 2.754E-06     | 4.540E-06     |
| 1680  | 1.2D+1.6L       | Combination |          | 0.078348   | 0.017442  | -0.952871 | 1.773E-06     | 4.656E-06     |
| 1680  | 1.2D+1L+1E      | Combination | Max      | 12.205210  | 5.059414  | 0.296709  | 0.000504      | 0.001233      |
| 1680  | 1.2D+1L+1E      | Combination | Min      | -12.064564 | -5.032562 | -2.091107 | -0.000500     | -0.001224     |
| 1680  | 0.9D+1E         | Combination | Max      | 12.177598  | 5.051037  | 0.590599  | 0.000504      | 0.001232      |
| 1680  | 0.9D+1E         | Combination | Min      | -12.092176 | -5.040938 | -1.797217 | -0.000501     | -0.001226     |
| 1680  | 1.2D+1L+1E<br>y | Combination | Max      | 3.213031   | 7.397060  | 1.027311  | 0.000755      | 0.000322      |
| 1680  | 1.2D+1L+1E<br>y | Combination | Min      | -3.072385  | -7.370208 | -2.821710 | -0.000751     | -0.000313     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1680  | 0.9D+1Ey   | Combination | Max      | 3.185419   | 7.388683  | 1.321201  | 0.000754      | 0.000321      |
| 1680  | 0.9D+1Ey   | Combination | Min      | -3.099997  | -7.378584 | -2.527820 | -0.000751     | -0.000315     |
| 1680  | 1D+0.5L    | Combination |          | 0.054144   | 0.008957  | -0.716737 | 1.784E-06     | 3.482E-06     |
| 1681  | 1.4D       | Combination |          | 0.103368   | -0.043325 | -0.949983 | 3.572E-06     | 0.000017      |
| 1681  | 1.2D+1.6L  | Combination |          | 0.119649   | -0.034417 | -0.960089 | 3.367E-06     | 0.000019      |
| 1681  | 1.2D+1L+1E | Combination | Max      | 11.666631  | 5.024718  | 0.779781  | 0.000530      | 0.001231      |
| 1681  | 1.2D+1L+1E | Combination | Min      | -11.450619 | -5.095591 | -2.590595 | -0.000523     | -0.001197     |
| 1681  | 0.9D+1E    | Combination | Max      | 11.625076  | 5.032302  | 1.074485  | 0.000529      | 0.001225      |
| 1681  | 0.9D+1E    | Combination | Min      | -11.492174 | -5.088006 | -2.295891 | -0.000524     | -0.001203     |
| 1681  | 1.2D+1L+1E | Combination | Max      | 3.092244   | 7.346008  | 0.571801  | 0.000788      | 0.000330      |
|       | y          |             |          |            |           |           |               |               |
| 1681  | 1.2D+1L+1E | Combination | Min      | -2.876231  | -7.416881 | -2.382616 | -0.000781     | -0.000296     |
|       | y          |             |          |            |           |           |               |               |
| 1681  | 0.9D+1Ey   | Combination | Max      | 3.050688   | 7.353592  | 0.866505  | 0.000787      | 0.000324      |
| 1681  | 0.9D+1Ey   | Combination | Min      | -2.917787  | -7.409296 | -2.087912 | -0.000782     | -0.000303     |
| 1681  | 1D+0.5L    | Combination |          | 0.083537   | -0.030097 | -0.724127 | 2.647E-06     | 0.000013      |
| 1682  | 1.4D       | Combination |          | 0.142707   | -0.099437 | -1.033144 | 0.000023      | 0.000023      |
| 1682  | 1.2D+1.6L  | Combination |          | 0.181600   | -0.124552 | -1.060546 | 0.000032      | 0.000028      |
| 1682  | 1.2D+1L+1E | Combination | Max      | 10.405350  | 3.217371  | 2.159517  | 0.000383      | 0.001110      |
| 1682  | 1.2D+1L+1E | Combination | Min      | -10.086609 | -3.436985 | -4.149363 | -0.000328     | -0.001059     |
| 1682  | 0.9D+1E    | Combination | Max      | 10.337720  | 3.263254  | 2.490276  | 0.000370      | 0.001100      |
| 1682  | 0.9D+1E    | Combination | Min      | -10.154239 | -3.391102 | -3.818604 | -0.000341     | -0.001070     |
| 1682  | 1.2D+1L+1E | Combination | Max      | 2.806731   | 7.055105  | 0.396884  | 0.000762      | 0.000305      |
|       | y          |             |          |            |           |           |               |               |
| 1682  | 1.2D+1L+1E | Combination | Min      | -2.487990  | -7.274720 | -2.386730 | -0.000708     | -0.000255     |
|       | y          |             |          |            |           |           |               |               |
| 1682  | 0.9D+1Ey   | Combination | Max      | 2.739101   | 7.100988  | 0.727643  | 0.000749      | 0.000295      |
| 1682  | 0.9D+1Ey   | Combination | Min      | -2.555620  | -7.228837 | -2.055971 | -0.000720     | -0.000265     |
| 1682  | 1D+0.5L    | Combination |          | 0.120459   | -0.083314 | -0.792645 | 0.000020      | 0.000019      |
| 1683  | 1.4D       | Combination |          | 0.083107   | -0.069319 | -0.979488 | 0.000013      | 4.294E-06     |
| 1683  | 1.2D+1.6L  | Combination |          | 0.120836   | -0.097514 | -0.990179 | 0.000017      | 8.001E-06     |
| 1683  | 1.2D+1L+1E | Combination | Max      | 10.310665  | 3.711307  | 0.243405  | 0.000425      | 0.001075      |
| 1683  | 1.2D+1L+1E | Combination | Min      | -10.106194 | -3.877761 | -2.110800 | -0.000396     | -0.001062     |
| 1683  | 0.9D+1E    | Combination | Max      | 10.261856  | 3.749972  | 0.547432  | 0.000419      | 0.001071      |
| 1683  | 0.9D+1E    | Combination | Min      | -10.155004 | -3.839096 | -1.806773 | -0.000402     | -0.001066     |
| 1683  | 1.2D+1L+1E | Combination | Max      | 2.739921   | 7.083855  | 0.277418  | 0.000799      | 0.000283      |
|       | y          |             |          |            |           |           |               |               |
| 1683  | 1.2D+1L+1E | Combination | Min      | -2.535450  | -7.250310 | -2.144813 | -0.000770     | -0.000270     |
|       | y          |             |          |            |           |           |               |               |
| 1683  | 0.9D+1Ey   | Combination | Max      | 2.691112   | 7.122520  | 0.581445  | 0.000792      | 0.000279      |
| 1683  | 0.9D+1Ey   | Combination | Min      | -2.584260  | -7.211644 | -1.840786 | -0.000776     | -0.000273     |
| 1683  | 1D+0.5L    | Combination |          | 0.074863   | -0.061419 | -0.746702 | 0.000011      | 4.417E-06     |
| 1684  | 1.4D       | Combination |          | 0.131563   | -0.130308 | -1.041478 | 0.000017      | -0.000043     |
| 1684  | 1.2D+1.6L  | Combination |          | 0.174586   | -0.159751 | -1.071649 | 0.000023      | -0.000057     |
| 1684  | 1.2D+1L+1E | Combination | Max      | 10.395243  | 3.667111  | 0.630331  | 0.000426      | 0.000763      |
| 1684  | 1.2D+1L+1E | Combination | Min      | -10.092435 | -3.950570 | -2.639413 | -0.000387     | -0.000862     |
| 1684  | 0.9D+1E    | Combination | Max      | 10.328415  | 3.725071  | 0.965350  | 0.000418      | 0.000784      |
| 1684  | 0.9D+1E    | Combination | Min      | -10.159263 | -3.892610 | -2.304394 | -0.000395     | -0.000840     |
| 1684  | 1.2D+1L+1E | Combination | Max      | 2.814797   | 7.046268  | 1.334485  | 0.000795      | 0.000169      |
|       | y          |             |          |            |           |           |               |               |
| 1684  | 1.2D+1L+1E | Combination | Min      | -2.511989  | -7.329726 | -3.343568 | -0.000755     | -0.000268     |
|       | y          |             |          |            |           |           |               |               |
| 1684  | 0.9D+1Ey   | Combination | Max      | 2.747969   | 7.104228  | 1.669504  | 0.000786      | 0.000190      |
| 1684  | 0.9D+1Ey   | Combination | Min      | -2.578817  | -7.271767 | -3.008548 | -0.000764     | -0.000246     |
| 1684  | 1D+0.5L    | Combination |          | 0.113291   | -0.108096 | -0.799836 | 0.000015      | -0.000037     |
| 1685  | 1.4D       | Combination |          | 0.130794   | -0.051227 | -0.926793 | -0.000030     | 0.000017      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1685  | 1.2D+1.6L       | Combination |          | 0.169231   | -0.064129 | -0.947414 | -0.000040     | 0.000022      |
| 1685  | 1.2D+1L+1E      | Combination | Max      | 10.452163  | 2.455736  | 0.882196  | 0.000199      | 0.001085      |
| 1685  | 1.2D+1L+1E      | Combination | Min      | -10.156543 | -2.568828 | -2.662259 | -0.000268     | -0.001048     |
| 1685  | 0.9D+1E         | Combination | Max      | 10.388434  | 2.479351  | 1.176432  | 0.000214      | 0.001077      |
| 1685  | 0.9D+1E         | Combination | Min      | -10.220271 | -2.545214 | -2.368023 | -0.000252     | -0.001056     |
| 1685  | 1.2D+1L+1E<br>y | Combination | Max      | 2.810120   | 7.076933  | 0.833200  | 0.000627      | 0.000294      |
| 1685  | 1.2D+1L+1E<br>y | Combination | Min      | -2.514500  | -7.190025 | -2.613263 | -0.000696     | -0.000257     |
| 1685  | 0.9D+1Ey        | Combination | Max      | 2.746391   | 7.100548  | 1.127436  | 0.000642      | 0.000286      |
| 1685  | 0.9D+1Ey        | Combination | Min      | -2.578228  | -7.166411 | -2.319028 | -0.000680     | -0.000265     |
| 1685  | 1D+0.5L         | Combination |          | 0.111275   | -0.042909 | -0.709814 | -0.000026     | 0.000014      |
| 1686  | 1.4D            | Combination |          | 0.103131   | -0.034384 | -0.894910 | 7.624E-06     | 0.000013      |
| 1686  | 1.2D+1.6L       | Combination |          | 0.141064   | -0.049088 | -0.905661 | 9.707E-06     | 0.000018      |
| 1686  | 1.2D+1L+1E      | Combination | Max      | 10.416844  | 2.517521  | 0.007764  | 0.000284      | 0.001105      |
| 1686  | 1.2D+1L+1E      | Combination | Min      | -10.174216 | -2.600984 | -1.715139 | -0.000267     | -0.001075     |
| 1686  | 0.9D+1E         | Combination | Max      | 10.361828  | 2.537149  | 0.286152  | 0.000280      | 0.001099      |
| 1686  | 0.9D+1E         | Combination | Min      | -10.229231 | -2.581356 | -1.436751 | -0.000271     | -0.001082     |
| 1686  | 1.2D+1L+1E<br>y | Combination | Max      | 2.780969   | 7.099524  | 0.849303  | 0.000777      | 0.000297      |
| 1686  | 1.2D+1L+1E<br>y | Combination | Min      | -2.538341  | -7.182988 | -2.556679 | -0.000760     | -0.000266     |
| 1686  | 0.9D+1Ey        | Combination | Max      | 2.725953   | 7.119152  | 1.127692  | 0.000773      | 0.000290      |
| 1686  | 0.9D+1Ey        | Combination | Min      | -2.593357  | -7.163360 | -2.278291 | -0.000763     | -0.000273     |
| 1686  | 1D+0.5L         | Combination |          | 0.090123   | -0.030690 | -0.682532 | 6.437E-06     | 0.000012      |
| 1687  | 1.4D            | Combination |          | 0.125085   | -0.089648 | -0.924487 | 6.907E-06     | 0.000015      |
| 1687  | 1.2D+1.6L       | Combination |          | 0.167896   | -0.105395 | -0.944228 | 8.926E-06     | 0.000020      |
| 1687  | 1.2D+1L+1E      | Combination | Max      | 10.399077  | 2.465128  | -0.012902 | 0.000282      | 0.001092      |
| 1687  | 1.2D+1L+1E      | Combination | Min      | -10.108794 | -2.654503 | -1.761697 | -0.000267     | -0.001057     |
| 1687  | 0.9D+1E         | Combination | Max      | 10.334348  | 2.502184  | 0.280085  | 0.000279      | 0.001085      |
| 1687  | 0.9D+1E         | Combination | Min      | -10.173523 | -2.617447 | -1.468710 | -0.000270     | -0.001065     |
| 1687  | 1.2D+1L+1E<br>y | Combination | Max      | 2.811349   | 7.047038  | 0.818201  | 0.000774      | 0.000296      |
| 1687  | 1.2D+1L+1E<br>y | Combination | Min      | -2.521067  | -7.236413 | -2.592799 | -0.000758     | -0.000261     |
| 1687  | 0.9D+1Ey        | Combination | Max      | 2.746620   | 7.084094  | 1.111187  | 0.000771      | 0.000289      |
| 1687  | 0.9D+1Ey        | Combination | Min      | -2.585796  | -7.199357 | -2.299813 | -0.000762     | -0.000269     |
| 1687  | 1D+0.5L         | Combination |          | 0.108309   | -0.072958 | -0.707789 | 5.873E-06     | 0.000013      |
| 1688  | 1.4D            | Combination |          | 0.150367   | -0.056170 | -0.958429 | 8.905E-06     | 0.000017      |
| 1688  | 1.2D+1.6L       | Combination |          | 0.193884   | -0.069087 | -0.989196 | 0.000011      | 0.000023      |
| 1688  | 1.2D+1L+1E      | Combination | Max      | 10.429669  | 2.451681  | 0.815984  | 0.000274      | 0.001077      |
| 1688  | 1.2D+1L+1E      | Combination | Min      | -10.090649 | -2.574149 | -2.668612 | -0.000254     | -0.001037     |
| 1688  | 0.9D+1E         | Combination | Max      | 10.356824  | 2.476806  | 1.126165  | 0.000270      | 0.001068      |
| 1688  | 0.9D+1E         | Combination | Min      | -10.163494 | -2.549024 | -2.358430 | -0.000259     | -0.001046     |
| 1688  | 1.2D+1L+1E<br>y | Combination | Max      | 2.836745   | 7.073897  | 0.797844  | 0.000754      | 0.000294      |
| 1688  | 1.2D+1L+1E<br>y | Combination | Min      | -2.497725  | -7.196365 | -2.650472 | -0.000734     | -0.000255     |
| 1688  | 0.9D+1Ey        | Combination | Max      | 2.763900   | 7.099022  | 1.108025  | 0.000750      | 0.000286      |
| 1688  | 0.9D+1Ey        | Combination | Min      | -2.570570  | -7.171240 | -2.340290 | -0.000739     | -0.000264     |
| 1688  | 1D+0.5L         | Combination |          | 0.127717   | -0.046666 | -0.736994 | 7.471E-06     | 0.000015      |
| 1689  | 1.4D            | Combination |          | 0.114985   | 0.011171  | -0.791844 | 0.000016      | 4.993E-06     |
| 1689  | 1.2D+1.6L       | Combination |          | 0.153734   | 0.019386  | -0.740956 | 0.000022      | 9.286E-06     |
| 1689  | 1.2D+1L+1E      | Combination | Max      | 10.354578  | 4.058792  | 2.382035  | 0.000440      | 0.001090      |
| 1689  | 1.2D+1L+1E      | Combination | Min      | -10.088491 | -4.027379 | -3.817273 | -0.000403     | -0.001076     |
| 1689  | 0.9D+1E         | Combination | Max      | 10.295454  | 4.050266  | 2.590612  | 0.000432      | 0.001086      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1689  | 0.9D+1E    | Combination | Min      | -10.147616 | -4.035904 | -3.608697 | -0.000412     | -0.001080     |
| 1689  | 1.2D+1L+1E | Combination | Max      | 2.775425   | 7.084831  | 0.561971  | 0.000739      | 0.000287      |
|       | y          |             |          |            |           |           |               |               |
| 1689  | 1.2D+1L+1E | Combination | Min      | -2.509338  | -7.053417 | -1.997209 | -0.000701     | -0.000272     |
|       | y          |             |          |            |           |           |               |               |
| 1689  | 0.9D+1Ey   | Combination | Max      | 2.716301   | 7.076305  | 0.770547  | 0.000730      | 0.000283      |
| 1689  | 0.9D+1Ey   | Combination | Min      | -2.568462  | -7.061943 | -1.788633 | -0.000710     | -0.000276     |
| 1689  | 1D+0.5L    | Combination |          | 0.099375   | 0.011045  | -0.585051 | 0.000014      | 5.131E-06     |
| 1690  | 1.4D       | Combination |          | 0.163830   | 0.038237  | -0.841961 | -1.317E-06    | 0.000021      |
| 1690  | 1.2D+1.6L  | Combination |          | 0.200021   | 0.050338  | -0.806984 | -3.174E-06    | 0.000025      |
| 1690  | 1.2D+1L+1E | Combination | Max      | 10.360700  | 4.572359  | 0.484016  | 0.000488      | 0.001092      |
| 1690  | 1.2D+1L+1E | Combination | Min      | -10.005354 | -4.484855 | -2.034006 | -0.000493     | -0.001048     |
| 1690  | 0.9D+1E    | Combination | Max      | 10.288346  | 4.553188  | 0.717751  | 0.000489      | 0.001084      |
| 1690  | 0.9D+1E    | Combination | Min      | -10.077708 | -4.504026 | -1.800272 | -0.000491     | -0.001057     |
| 1690  | 1.2D+1L+1E | Combination | Max      | 2.812603   | 7.037218  | 0.337835  | 0.000771      | 0.000299      |
|       | y          |             |          |            |           |           |               |               |
| 1690  | 1.2D+1L+1E | Combination | Min      | -2.457257  | -6.949714 | -1.887825 | -0.000776     | -0.000255     |
|       | y          |             |          |            |           |           |               |               |
| 1690  | 0.9D+1Ey   | Combination | Max      | 2.740249   | 7.018047  | 0.571569  | 0.000773      | 0.000290      |
| 1690  | 0.9D+1Ey   | Combination | Min      | -2.529611  | -6.968885 | -1.654091 | -0.000775     | -0.000264     |
| 1690  | 1D+0.5L    | Combination |          | 0.135645   | 0.032801  | -0.628058 | -1.580E-06    | 0.000017      |
| 1691  | 1.4D       | Combination |          | 0.123765   | -0.020176 | -0.839185 | -9.980E-07    | 4.195E-06     |
| 1691  | 1.2D+1.6L  | Combination |          | 0.167896   | -0.005595 | -0.798370 | -2.406E-06    | 5.022E-06     |
| 1691  | 1.2D+1L+1E | Combination | Max      | 10.405801  | 4.541999  | 1.159492  | 0.000490      | 0.000993      |
| 1691  | 1.2D+1L+1E | Combination | Min      | -10.116368 | -4.561964 | -2.696931 | -0.000493     | -0.000984     |
| 1691  | 0.9D+1E    | Combination | Max      | 10.340647  | 4.539011  | 1.388736  | 0.000491      | 0.000992      |
| 1691  | 0.9D+1E    | Combination | Min      | -10.181521 | -4.564952 | -2.467687 | -0.000492     | -0.000986     |
| 1691  | 1.2D+1L+1E | Combination | Max      | 2.812485   | 7.015059  | 1.626809  | 0.000772      | 0.000270      |
|       | y          |             |          |            |           |           |               |               |
| 1691  | 1.2D+1L+1E | Combination | Min      | -2.523052  | -7.035023 | -3.164248 | -0.000776     | -0.000261     |
|       | y          |             |          |            |           |           |               |               |
| 1691  | 0.9D+1Ey   | Combination | Max      | 2.747332   | 7.012071  | 1.856052  | 0.000773      | 0.000268      |
| 1691  | 0.9D+1Ey   | Combination | Min      | -2.588205  | -7.038011 | -2.935004 | -0.000775     | -0.000263     |
| 1691  | 1D+0.5L    | Combination |          | 0.107720   | -0.010756 | -0.624127 | -1.197E-06    | 3.442E-06     |
| 1692  | 1.4D       | Combination |          | 0.078559   | -0.066521 | -0.908856 | 0.000012      | 0.000024      |
| 1692  | 1.2D+1.6L  | Combination |          | 0.095635   | -0.113021 | -0.859958 | 0.000016      | 0.000032      |
| 1692  | 1.2D+1L+1E | Combination | Max      | 16.375686  | 6.095981  | 0.583484  | 0.000532      | 0.001400      |
| 1692  | 1.2D+1L+1E | Combination | Min      | -16.205640 | -6.280021 | -2.242695 | -0.000505     | -0.001344     |
| 1692  | 0.9D+1E    | Combination | Max      | 16.341165  | 6.145238  | 0.828825  | 0.000526      | 0.001387      |
| 1692  | 0.9D+1E    | Combination | Min      | -16.240160 | -6.230765 | -1.997354 | -0.000511     | -0.001356     |
| 1692  | 1.2D+1L+1E | Combination | Max      | 4.300507   | 9.526919  | 1.457964  | 0.000847      | 0.000382      |
|       | y          |             |          |            |           |           |               |               |
| 1692  | 1.2D+1L+1E | Combination | Min      | -4.130461  | -9.710959 | -3.117176 | -0.000820     | -0.000327     |
|       | y          |             |          |            |           |           |               |               |
| 1692  | 0.9D+1Ey   | Combination | Max      | 4.265986   | 9.576176  | 1.703306  | 0.000841      | 0.000370      |
| 1692  | 0.9D+1Ey   | Combination | Min      | -4.164982  | -9.661703 | -2.871834 | -0.000826     | -0.000339     |
| 1692  | 1D+0.5L    | Combination |          | 0.064957   | -0.065016 | -0.674476 | 0.000010      | 0.000021      |
| 1693  | 1.4D       | Combination |          | 0.056785   | -0.115529 | -0.954143 | 0.000012      | 0.000016      |
| 1693  | 1.2D+1.6L  | Combination |          | 0.080393   | -0.160015 | -0.923726 | 0.000017      | 0.000018      |
| 1693  | 1.2D+1L+1E | Combination | Max      | 15.618799  | 6.064782  | 1.000024  | 0.000549      | 0.001358      |
| 1693  | 1.2D+1L+1E | Combination | Min      | -15.481802 | -6.339069 | -2.768059 | -0.000520     | -0.001325     |
| 1693  | 0.9D+1E    | Combination | Max      | 15.586805  | 6.127657  | 1.270664  | 0.000542      | 0.001352      |
| 1693  | 0.9D+1E    | Combination | Min      | -15.513796 | -6.276194 | -2.497419 | -0.000527     | -0.001331     |
| 1693  | 1.2D+1L+1E | Combination | Max      | 4.080129   | 9.472603  | 0.591198  | 0.000872      | 0.000362      |
|       | y          |             |          |            |           |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1693  | 1.2D+1L+1E<br>y | Combination | Min      | -3.943132  | -9.746890 | -2.359233 | -0.000843     | -0.000329     |
| 1693  | 0.9D+1Ey        | Combination | Max      | 4.048135   | 9.535478  | 0.861838  | 0.000865      | 0.000356      |
| 1693  | 0.9D+1Ey        | Combination | Min      | -3.975126  | -9.684015 | -2.088593 | -0.000850     | -0.000335     |
| 1693  | 1D+0.5L         | Combination |          | 0.050473   | -0.101580 | -0.714621 | 0.000010      | 0.000013      |
| 1694  | 1.4D            | Combination |          | 0.105456   | -0.077051 | -0.995518 | -9.249E-06    | 5.312E-06     |
| 1694  | 1.2D+1.6L       | Combination |          | 0.127856   | -0.117637 | -0.974905 | -0.000014     | 8.045E-06     |
| 1694  | 1.2D+1L+1E      | Combination | Max      | 15.684452  | 5.281928  | 2.500964  | 0.000443      | 0.001318      |
| 1694  | 1.2D+1L+1E      | Combination | Min      | -15.456838 | -5.478507 | -4.359571 | -0.000467     | -0.001305     |
| 1694  | 0.9D+1E         | Combination | Max      | 15.638438  | 5.330685  | 2.790292  | 0.000449      | 0.001315      |
| 1694  | 0.9D+1E         | Combination | Min      | -15.502852 | -5.429750 | -4.070244 | -0.000461     | -0.001308     |
| 1694  | 1.2D+1L+1E<br>y | Combination | Max      | 4.131287   | 9.526210  | 0.672580  | 0.000854      | 0.000345      |
| 1694  | 1.2D+1L+1E<br>y | Combination | Min      | -3.903673  | -9.722789 | -2.531188 | -0.000877     | -0.000332     |
| 1694  | 0.9D+1Ey        | Combination | Max      | 4.085273   | 9.574967  | 0.961908  | 0.000860      | 0.000342      |
| 1694  | 0.9D+1Ey        | Combination | Min      | -3.949686  | -9.674032 | -2.241860 | -0.000872     | -0.000335     |
| 1694  | 1D+0.5L         | Combination |          | 0.087034   | -0.071159 | -0.749086 | -8.466E-06    | 4.886E-06     |
| 1695  | 1.4D            | Combination |          | 0.070053   | -0.041956 | -1.126495 | 8.976E-06     | 9.364E-06     |
| 1695  | 1.2D+1.6L       | Combination |          | 0.086904   | -0.063269 | -1.135043 | 0.000011      | 0.000011      |
| 1695  | 1.2D+1L+1E      | Combination | Max      | 16.373425  | 3.421604  | -0.065155 | 0.000316      | 0.001404      |
| 1695  | 1.2D+1L+1E      | Combination | Min      | -16.219761 | -3.527662 | -2.077824 | -0.000296     | -0.001384     |
| 1695  | 0.9D+1E         | Combination | Max      | 16.341627  | 3.447661  | 0.282159  | 0.000312      | 0.001400      |
| 1695  | 0.9D+1E         | Combination | Min      | -16.251560 | -3.501605 | -1.730511 | -0.000300     | -0.001388     |
| 1695  | 1.2D+1L+1E<br>y | Combination | Max      | 4.293965   | 9.620599  | 0.778474  | 0.000860      | 0.000370      |
| 1695  | 1.2D+1L+1E<br>y | Combination | Min      | -4.140301  | -9.726657 | -2.921453 | -0.000840     | -0.000350     |
| 1695  | 0.9D+1Ey        | Combination | Max      | 4.262167   | 9.646657  | 1.125788  | 0.000856      | 0.000366      |
| 1695  | 0.9D+1Ey        | Combination | Min      | -4.172099  | -9.700600 | -2.574139 | -0.000845     | -0.000354     |
| 1695  | 1D+0.5L         | Combination |          | 0.058431   | -0.038502 | -0.857601 | 7.535E-06     | 7.591E-06     |
| 1696  | 1.4D            | Combination |          | 0.097062   | -0.061853 | -1.147555 | -0.000012     | 9.647E-06     |
| 1696  | 1.2D+1.6L       | Combination |          | 0.114189   | -0.080470 | -1.160374 | -0.000019     | 0.000012      |
| 1696  | 1.2D+1L+1E      | Combination | Max      | 16.405131  | 3.339753  | 1.159780  | 0.000241      | 0.001389      |
| 1696  | 1.2D+1L+1E      | Combination | Min      | -16.199997 | -3.480103 | -3.347961 | -0.000273     | -0.001368     |
| 1696  | 0.9D+1E         | Combination | Max      | 16.364961  | 3.370165  | 1.516157  | 0.000249      | 0.001385      |
| 1696  | 0.9D+1E         | Combination | Min      | -16.240167 | -3.449690 | -2.991584 | -0.000264     | -0.001373     |
| 1696  | 1.2D+1L+1E<br>y | Combination | Max      | 4.320283   | 9.611839  | 0.810841  | 0.000697      | 0.000366      |
| 1696  | 1.2D+1L+1E<br>y | Combination | Min      | -4.115150  | -9.752189 | -2.999022 | -0.000729     | -0.000345     |
| 1696  | 0.9D+1Ey        | Combination | Max      | 4.280113   | 9.642252  | 1.167218  | 0.000706      | 0.000362      |
| 1696  | 0.9D+1Ey        | Combination | Min      | -4.155319  | -9.721777 | -2.642645 | -0.000721     | -0.000350     |
| 1696  | 1D+0.5L         | Combination |          | 0.079015   | -0.052760 | -0.874918 | -0.000011     | 7.981E-06     |
| 1697  | 1.4D            | Combination |          | 0.076428   | -0.095140 | -1.161421 | 7.571E-06     | 0.000011      |
| 1697  | 1.2D+1.6L       | Combination |          | 0.099249   | -0.117144 | -1.179556 | 9.410E-06     | 0.000013      |
| 1697  | 1.2D+1L+1E      | Combination | Max      | 15.717411  | 3.373375  | 0.005757  | 0.000315      | 0.001345      |
| 1697  | 1.2D+1L+1E      | Combination | Min      | -15.544217 | -3.580967 | -2.226830 | -0.000299     | -0.001322     |
| 1697  | 0.9D+1E         | Combination | Max      | 15.679947  | 3.416009  | 0.369666  | 0.000312      | 0.001341      |
| 1697  | 0.9D+1E         | Combination | Min      | -15.581682 | -3.538332 | -1.862922 | -0.000302     | -0.001327     |
| 1697  | 1.2D+1L+1E<br>y | Combination | Max      | 4.117306   | 9.570259  | 0.694565  | 0.000862      | 0.000355      |
| 1697  | 1.2D+1L+1E<br>y | Combination | Min      | -3.944113  | -9.777851 | -2.915638 | -0.000845     | -0.000332     |
| 1697  | 0.9D+1Ey        | Combination | Max      | 4.079842   | 9.612893  | 1.058473  | 0.000859      | 0.000350      |
| 1697  | 0.9D+1Ey        | Combination | Min      | -3.981577  | -9.735216 | -2.551729 | -0.000849     | -0.000336     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1697  | 1D+0.5L    | Combination |          | 0.065135   | -0.079081  | -0.887103 | 6.321E-06     | 8.969E-06     |
| 1698  | 1.4D       | Combination |          | 0.102832   | -0.067420  | -1.186237 | 0.000014      | 0.000012      |
| 1698  | 1.2D+1.6L  | Combination |          | 0.126144   | -0.086106  | -1.209949 | 0.000025      | 0.000015      |
| 1698  | 1.2D+1L+1E | Combination | Max      | 15.746252  | 3.334449   | 0.848381  | 0.000281      | 0.001314      |
| 1698  | 1.2D+1L+1E | Combination | Min      | -15.522465 | -3.485422  | -3.123399 | -0.000241     | -0.001287     |
| 1698  | 0.9D+1E    | Combination | Max      | 15.700465  | 3.366594   | 1.223309  | 0.000270      | 0.001308      |
| 1698  | 0.9D+1E    | Combination | Min      | -15.568252 | -3.453277  | -2.748471 | -0.000252     | -0.001293     |
| 1698  | 1.2D+1L+1E | Combination | Max      | 4.144022   | 9.606215   | 0.685639  | 0.000760      | 0.000349      |
|       | y          |             |          |            |            |           |               |               |
| 1698  | 1.2D+1L+1E | Combination | Min      | -3.920235  | -9.757189  | -2.960656 | -0.000720     | -0.000322     |
|       | y          |             |          |            |            |           |               |               |
| 1698  | 0.9D+1Ey   | Combination | Max      | 4.098235   | 9.638360   | 1.060567  | 0.000749      | 0.000343      |
| 1698  | 0.9D+1Ey   | Combination | Min      | -3.966022  | -9.725043  | -2.585729 | -0.000730     | -0.000328     |
| 1698  | 1D+0.5L    | Combination |          | 0.085327   | -0.057006  | -0.907679 | 0.000014      | 0.000010      |
| 1699  | 1.4D       | Combination |          | 0.092417   | -0.001719  | -1.104153 | 5.031E-06     | 5.534E-06     |
| 1699  | 1.2D+1.6L  | Combination |          | 0.109464   | 0.010463   | -1.120696 | 4.045E-06     | 5.868E-06     |
| 1699  | 1.2D+1L+1E | Combination | Max      | 16.389819  | 6.742359   | 0.246279  | 0.000545      | 0.001339      |
| 1699  | 1.2D+1L+1E | Combination | Min      | -16.193578 | -6.730385  | -2.356962 | -0.000537     | -0.001329     |
| 1699  | 0.9D+1E    | Combination | Max      | 16.351110  | 6.735267   | 0.591807  | 0.000544      | 0.001338      |
| 1699  | 0.9D+1E    | Combination | Min      | -16.232287 | -6.737477  | -2.011433 | -0.000538     | -0.001330     |
| 1699  | 1.2D+1L+1E | Combination | Max      | 4.313650   | 9.973969   | 1.039038  | 0.000833      | 0.000350      |
|       | y          |             |          |            |            |           |               |               |
| 1699  | 1.2D+1L+1E | Combination | Min      | -4.117409  | -9.961995  | -3.149721 | -0.000825     | -0.000339     |
|       | y          |             |          |            |            |           |               |               |
| 1699  | 0.9D+1Ey   | Combination | Max      | 4.274941   | 9.966877   | 1.384566  | 0.000832      | 0.000348      |
| 1699  | 0.9D+1Ey   | Combination | Min      | -4.156118  | -9.969087  | -2.804192 | -0.000826     | -0.000341     |
| 1699  | 1D+0.5L    | Combination |          | 0.075465   | 0.002502   | -0.843143 | 3.510E-06     | 4.304E-06     |
| 1700  | 1.4D       | Combination |          | 0.130728   | -0.050711  | -1.120267 | 5.485E-06     | 4.335E-06     |
| 1700  | 1.2D+1.6L  | Combination |          | 0.153695   | -0.039181  | -1.132634 | 5.307E-06     | 6.625E-06     |
| 1700  | 1.2D+1L+1E | Combination | Max      | 15.695040  | 6.708597   | 0.773810  | 0.000571      | 0.001343      |
| 1700  | 1.2D+1L+1E | Combination | Min      | -15.418882 | -6.790173  | -2.909774 | -0.000561     | -0.001332     |
| 1700  | 0.9D+1E    | Combination | Max      | 15.641001  | 6.716785   | 1.121620  | 0.000570      | 0.001340      |
| 1700  | 0.9D+1E    | Combination | Min      | -15.472922 | -6.781985  | -2.561964 | -0.000563     | -0.001334     |
| 1700  | 1.2D+1L+1E | Combination | Max      | 4.151126   | 9.929408   | 0.601056  | 0.000869      | 0.000350      |
|       | y          |             |          |            |            |           |               |               |
| 1700  | 1.2D+1L+1E | Combination | Min      | -3.874967  | -10.010984 | -2.737020 | -0.000859     | -0.000339     |
|       | y          |             |          |            |            |           |               |               |
| 1700  | 0.9D+1Ey   | Combination | Max      | 4.097086   | 9.937596   | 0.948866  | 0.000867      | 0.000347      |
| 1700  | 0.9D+1Ey   | Combination | Min      | -3.929007  | -10.002796 | -2.389210 | -0.000860     | -0.000342     |
| 1700  | 1D+0.5L    | Combination |          | 0.106391   | -0.034883  | -0.854067 | 4.107E-06     | 4.006E-06     |
| 1701  | 1.4D       | Combination |          | 0.188150   | -0.133210  | -1.215831 | 0.000023      | 0.000011      |
| 1701  | 1.2D+1.6L  | Combination |          | 0.241693   | -0.168955  | -1.247905 | 0.000033      | 0.000016      |
| 1701  | 1.2D+1L+1E | Combination | Max      | 13.989147  | 4.364043   | 2.288050  | 0.000423      | 0.001177      |
| 1701  | 1.2D+1L+1E | Combination | Min      | -13.566077 | -4.660872  | -4.629537 | -0.000367     | -0.001150     |
| 1701  | 0.9D+1E    | Combination | Max      | 13.898566  | 4.426823   | 2.677188  | 0.000410      | 0.001170      |
| 1701  | 0.9D+1E    | Combination | Min      | -13.656659 | -4.598093  | -4.240399 | -0.000380     | -0.001156     |
| 1701  | 1.2D+1L+1E | Combination | Max      | 3.769840   | 9.586621   | 0.395954  | 0.000845      | 0.000314      |
|       | y          |             |          |            |            |           |               |               |
| 1701  | 1.2D+1L+1E | Combination | Min      | -3.346770  | -9.883450  | -2.737441 | -0.000789     | -0.000287     |
|       | y          |             |          |            |            |           |               |               |
| 1701  | 0.9D+1Ey   | Combination | Max      | 3.679258   | 9.649400   | 0.785092  | 0.000832      | 0.000307      |
| 1701  | 0.9D+1Ey   | Combination | Min      | -3.437351  | -9.820670  | -2.348303 | -0.000802     | -0.000294     |
| 1701  | 1D+0.5L    | Combination |          | 0.159525   | -0.112267  | -0.932752 | 0.000021      | 9.691E-06     |
| 1702  | 1.4D       | Combination |          | 0.129816   | -0.109552  | -1.155787 | 0.000013      | 0.000020      |
| 1702  | 1.2D+1.6L  | Combination |          | 0.182201   | -0.150051  | -1.168866 | 0.000018      | 0.000025      |
| 1702  | 1.2D+1L+1E | Combination | Max      | 13.903842  | 5.018972   | 0.184717  | 0.000468      | 0.001204      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1702  | 1.2D+1L+1E      | Combination | Min      | -13.592637 | -5.276962 | -2.388806 | -0.000437     | -0.001160     |
| 1702  | 0.9D+1E         | Combination | Max      | 13.831693  | 5.077540  | 0.543755  | 0.000461      | 0.001195      |
| 1702  | 0.9D+1E         | Combination | Min      | -13.664786 | -5.218393 | -2.029768 | -0.000444     | -0.001169     |
| 1702  | 1.2D+1L+1E<br>y | Combination | Max      | 3.706051   | 9.623293  | 0.262861  | 0.000884      | 0.000327      |
| 1702  | 1.2D+1L+1E<br>y | Combination | Min      | -3.394846  | -9.881283 | -2.466950 | -0.000854     | -0.000283     |
| 1702  | 0.9D+1Ey        | Combination | Max      | 3.633902   | 9.681861  | 0.621900  | 0.000878      | 0.000318      |
| 1702  | 0.9D+1Ey        | Combination | Min      | -3.466995  | -9.822714 | -2.107912 | -0.000861     | -0.000292     |
| 1702  | 1D+0.5L         | Combination |          | 0.114892   | -0.095798 | -0.881247 | 0.000011      | 0.000017      |
| 1703  | 1.4D            | Combination |          | 0.182835   | -0.167959 | -1.223978 | 0.000018      | -0.000042     |
| 1703  | 1.2D+1.6L       | Combination |          | 0.242471   | -0.209664 | -1.259121 | 0.000024      | -0.000055     |
| 1703  | 1.2D+1L+1E      | Combination | Max      | 13.963092  | 4.974166  | 0.648735  | 0.000468      | 0.000838      |
| 1703  | 1.2D+1L+1E      | Combination | Min      | -13.542467 | -5.344219 | -3.009480 | -0.000427     | -0.000934     |
| 1703  | 0.9D+1E         | Combination | Max      | 13.870316  | 5.051219  | 1.042265  | 0.000459      | 0.000859      |
| 1703  | 0.9D+1E         | Combination | Min      | -13.635243 | -5.267166 | -2.615950 | -0.000436     | -0.000913     |
| 1703  | 1.2D+1L+1E<br>y | Combination | Max      | 3.783439   | 9.582441  | 1.414378  | 0.000878      | 0.000190      |
| 1703  | 1.2D+1L+1E<br>y | Combination | Min      | -3.362814  | -9.952494 | -3.775122 | -0.000837     | -0.000286     |
| 1703  | 0.9D+1Ey        | Combination | Max      | 3.690663   | 9.659494  | 1.807907  | 0.000869      | 0.000211      |
| 1703  | 0.9D+1Ey        | Combination | Min      | -3.455589  | -9.875441 | -3.381593 | -0.000846     | -0.000265     |
| 1703  | 1D+0.5L         | Combination |          | 0.157395   | -0.140502 | -0.939894 | 0.000015      | -0.000036     |
| 1704  | 1.4D            | Combination |          | 0.176738   | -0.072185 | -1.090992 | -0.000029     | 0.000017      |
| 1704  | 1.2D+1.6L       | Combination |          | 0.229858   | -0.090748 | -1.115245 | -0.000039     | 0.000022      |
| 1704  | 1.2D+1L+1E      | Combination | Max      | 14.036050  | 3.329834  | 0.883932  | 0.000225      | 0.001178      |
| 1704  | 1.2D+1L+1E      | Combination | Min      | -13.635111 | -3.489674 | -2.979341 | -0.000292     | -0.001139     |
| 1704  | 0.9D+1E         | Combination | Max      | 13.949198  | 3.363349  | 1.230284  | 0.000240      | 0.001169      |
| 1704  | 0.9D+1E         | Combination | Min      | -13.721963 | -3.456159 | -2.632989 | -0.000277     | -0.001147     |
| 1704  | 1.2D+1L+1E<br>y | Combination | Max      | 3.773567   | 9.601626  | 0.879549  | 0.000700      | 0.000319      |
| 1704  | 1.2D+1L+1E<br>y | Combination | Min      | -3.372627  | -9.761466 | -2.974958 | -0.000767     | -0.000280     |
| 1704  | 0.9D+1Ey        | Combination | Max      | 3.686715   | 9.635142  | 1.225901  | 0.000715      | 0.000310      |
| 1704  | 0.9D+1Ey        | Combination | Min      | -3.459480  | -9.727951 | -2.628605 | -0.000752     | -0.000288     |
| 1704  | 1D+0.5L         | Combination |          | 0.150732   | -0.060584 | -0.835564 | -0.000025     | 0.000015      |
| 1705  | 1.4D            | Combination |          | 0.150218   | -0.058354 | -1.055416 | 8.258E-06     | 0.000017      |
| 1705  | 1.2D+1.6L       | Combination |          | 0.202841   | -0.079581 | -1.068523 | 0.000011      | 0.000022      |
| 1705  | 1.2D+1L+1E      | Combination | Max      | 14.004206  | 3.405548  | -0.054456 | 0.000315      | 0.001205      |
| 1705  | 1.2D+1L+1E      | Combination | Min      | -13.654087 | -3.542538 | -1.959679 | -0.000296     | -0.001167     |
| 1705  | 0.9D+1E         | Combination | Max      | 13.925715  | 3.436529  | 0.274130  | 0.000311      | 0.001197      |
| 1705  | 0.9D+1E         | Combination | Min      | -13.732578 | -3.511556 | -1.631093 | -0.000300     | -0.001175     |
| 1705  | 1.2D+1L+1E<br>y | Combination | Max      | 3.746064   | 9.622465  | 0.895684  | 0.000861      | 0.000325      |
| 1705  | 1.2D+1L+1E<br>y | Combination | Min      | -3.395945  | -9.759454 | -2.909818 | -0.000842     | -0.000287     |
| 1705  | 0.9D+1Ey        | Combination | Max      | 3.667573   | 9.653446  | 1.224269  | 0.000857      | 0.000317      |
| 1705  | 0.9D+1Ey        | Combination | Min      | -3.474436  | -9.728473 | -2.581232 | -0.000846     | -0.000295     |
| 1705  | 1D+0.5L         | Combination |          | 0.130449   | -0.050920 | -0.805081 | 7.030E-06     | 0.000014      |
| 1706  | 1.4D            | Combination |          | 0.176598   | -0.111465 | -1.090318 | 7.509E-06     | 0.000018      |
| 1706  | 1.2D+1.6L       | Combination |          | 0.235991   | -0.133741 | -1.114090 | 9.885E-06     | 0.000024      |
| 1706  | 1.2D+1L+1E      | Combination | Max      | 13.965593  | 3.355245  | -0.075227 | 0.000313      | 0.001188      |
| 1706  | 1.2D+1L+1E      | Combination | Min      | -13.557078 | -3.594077 | -2.018304 | -0.000296     | -0.001146     |
| 1706  | 0.9D+1E         | Combination | Max      | 13.874863  | 3.403005  | 0.270620  | 0.000309      | 0.001179      |
| 1706  | 0.9D+1E         | Combination | Min      | -13.647809 | -3.546317 | -1.672457 | -0.000300     | -0.001155     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1706  | 1.2D+1L+1E<br>y | Combination | Max      | 3.779797   | 9.572277  | 0.860623  | 0.000858      | 0.000323      |
| 1706  | 1.2D+1L+1E<br>y | Combination | Min      | -3.371282  | -9.811109 | -2.954154 | -0.000840     | -0.000282     |
| 1706  | 0.9D+1Ey        | Combination | Max      | 3.689067   | 9.620037  | 1.206470  | 0.000854      | 0.000314      |
| 1706  | 0.9D+1Ey        | Combination | Min      | -3.462012  | -9.763349 | -2.608307 | -0.000844     | -0.000291     |
| 1706  | 1D+0.5L         | Combination |          | 0.152585   | -0.091555 | -0.834902 | 6.441E-06     | 0.000016      |
| 1707  | 1.4D            | Combination |          | 0.200866   | -0.076912 | -1.128153 | 0.000010      | 0.000018      |
| 1707  | 1.2D+1.6L       | Combination |          | 0.260957   | -0.095492 | -1.164380 | 0.000013      | 0.000024      |
| 1707  | 1.2D+1L+1E      | Combination | Max      | 13.992789  | 3.326141  | 0.799334  | 0.000304      | 0.001167      |
| 1707  | 1.2D+1L+1E      | Combination | Min      | -13.537465 | -3.494949 | -2.980050 | -0.000281     | -0.001126     |
| 1707  | 0.9D+1E         | Combination | Max      | 13.894255  | 3.361102  | 1.164451  | 0.000299      | 0.001158      |
| 1707  | 0.9D+1E         | Combination | Min      | -13.635998 | -3.459988 | -2.614933 | -0.000286     | -0.001135     |
| 1707  | 1.2D+1L+1E<br>y | Combination | Max      | 3.803535   | 9.599314  | 0.840255  | 0.000837      | 0.000318      |
| 1707  | 1.2D+1L+1E<br>y | Combination | Min      | -3.348211  | -9.768122 | -3.020971 | -0.000814     | -0.000277     |
| 1707  | 0.9D+1Ey        | Combination | Max      | 3.705001   | 9.634275  | 1.205372  | 0.000832      | 0.000309      |
| 1707  | 0.9D+1Ey        | Combination | Min      | -3.446744  | -9.733161 | -2.655854 | -0.000819     | -0.000286     |
| 1707  | 1D+0.5L         | Combination |          | 0.171221   | -0.064177 | -0.867508 | 8.750E-06     | 0.000016      |
| 1708  | 1.4D            | Combination |          | 0.162120   | 0.008552  | -0.934183 | 0.000016      | 0.000020      |
| 1708  | 1.2D+1.6L       | Combination |          | 0.215513   | 0.019112  | -0.874506 | 0.000022      | 0.000024      |
| 1708  | 1.2D+1L+1E      | Combination | Max      | 13.934181  | 5.479301  | 2.548433  | 0.000485      | 0.001182      |
| 1708  | 1.2D+1L+1E      | Combination | Min      | -13.560569 | -5.449914 | -4.242112 | -0.000447     | -0.001139     |
| 1708  | 0.9D+1E         | Combination | Max      | 13.851595  | 5.470105  | 2.794727  | 0.000476      | 0.001173      |
| 1708  | 0.9D+1E         | Combination | Min      | -13.643155 | -5.459110 | -3.995818 | -0.000456     | -0.001148     |
| 1708  | 1.2D+1L+1E<br>y | Combination | Max      | 3.738487   | 9.625104  | 0.591963  | 0.000821      | 0.000321      |
| 1708  | 1.2D+1L+1E<br>y | Combination | Min      | -3.364875  | -9.595717 | -2.285641 | -0.000783     | -0.000279     |
| 1708  | 0.9D+1Ey        | Combination | Max      | 3.655901   | 9.615908  | 0.838256  | 0.000812      | 0.000312      |
| 1708  | 0.9D+1Ey        | Combination | Min      | -3.447461  | -9.604913 | -2.039348 | -0.000792     | -0.000287     |
| 1708  | 1D+0.5L         | Combination |          | 0.139723   | 0.009790  | -0.690329 | 0.000014      | 0.000016      |
| 1709  | 1.4D            | Combination |          | 0.209998   | 0.038184  | -0.991154 | -4.022E-07    | 9.851E-06     |
| 1709  | 1.2D+1.6L       | Combination |          | 0.260893   | 0.054337  | -0.949828 | -2.058E-06    | 0.000015      |
| 1709  | 1.2D+1L+1E      | Combination | Max      | 13.947698  | 6.183943  | 0.465600  | 0.000535      | 0.001199      |
| 1709  | 1.2D+1L+1E      | Combination | Min      | -13.486582 | -6.091475 | -2.290055 | -0.000538     | -0.001174     |
| 1709  | 0.9D+1E         | Combination | Max      | 13.852139  | 6.162256  | 0.740657  | 0.000536      | 0.001192      |
| 1709  | 0.9D+1E         | Combination | Min      | -13.582141 | -6.113163 | -2.014998 | -0.000537     | -0.001180     |
| 1709  | 1.2D+1L+1E<br>y | Combination | Max      | 3.776310   | 9.587593  | 0.334106  | 0.000856      | 0.000318      |
| 1709  | 1.2D+1L+1E<br>y | Combination | Min      | -3.315195  | -9.495125 | -2.158561 | -0.000858     | -0.000293     |
| 1709  | 0.9D+1Ey        | Combination | Max      | 3.680752   | 9.565905  | 0.609163  | 0.000857      | 0.000312      |
| 1709  | 0.9D+1Ey        | Combination | Min      | -3.410754  | -9.516812 | -1.883504 | -0.000857     | -0.000299     |
| 1709  | 1D+0.5L         | Combination |          | 0.175278   | 0.034027  | -0.739301 | -8.228E-07    | 9.092E-06     |
| 1710  | 1.4D            | Combination |          | 0.175311   | -0.017905 | -0.991124 | -7.892E-08    | 5.485E-06     |
| 1710  | 1.2D+1.6L       | Combination |          | 0.235972   | 0.000572  | -0.944009 | -1.241E-06    | 6.514E-06     |
| 1710  | 1.2D+1L+1E      | Combination | Max      | 13.974994  | 6.150985  | 1.249874  | 0.000537      | 0.001082      |
| 1710  | 1.2D+1L+1E      | Combination | Min      | -13.567328 | -6.161780 | -3.067036 | -0.000538     | -0.001071     |
| 1710  | 0.9D+1E         | Combination | Max      | 13.883861  | 6.144872  | 1.521304  | 0.000538      | 0.001080      |
| 1710  | 0.9D+1E         | Combination | Min      | -13.658461 | -6.167893 | -2.795606 | -0.000538     | -0.001073     |
| 1710  | 1.2D+1L+1E<br>y | Combination | Max      | 3.781651   | 9.560823  | 1.761994  | 0.000855      | 0.000295      |
| 1710  | 1.2D+1L+1E<br>y | Combination | Min      | -3.373985  | -9.571618 | -3.579156 | -0.000856     | -0.000284     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1710  | 0.9D+1Ey   | Combination | Max      | 3.690518   | 9.554710   | 2.033424  | 0.000856      | 0.000293      |
| 1710  | 0.9D+1Ey   | Combination | Min      | -3.465118  | -9.577730  | -3.307726 | -0.000856     | -0.000286     |
| 1710  | 1D+0.5L    | Combination |          | 0.152005   | -0.007814  | -0.737469 | -4.232E-07    | 4.484E-06     |
| 1711  | 1.4D       | Combination |          | 0.109701   | -0.103439  | -1.039131 | 0.000012      | 0.000025      |
| 1711  | 1.2D+1.6L  | Combination |          | 0.132829   | -0.164527  | -0.983598 | 0.000017      | 0.000034      |
| 1711  | 1.2D+1L+1E | Combination | Max      | 20.850104  | 7.755628   | 0.580761  | 0.000568      | 0.001482      |
| 1711  | 1.2D+1L+1E | Combination | Min      | -20.613546 | -8.027783  | -2.478270 | -0.000539     | -0.001423     |
| 1711  | 0.9D+1E    | Combination | Max      | 20.802347  | 7.825209   | 0.861503  | 0.000561      | 0.001469      |
| 1711  | 0.9D+1E    | Combination | Min      | -20.661303 | -7.958202  | -2.197528 | -0.000545     | -0.001436     |
| 1711  | 1.2D+1L+1E | Combination | Max      | 5.478798   | 12.284564  | 1.515061  | 0.000925      | 0.000404      |
|       | y          |             |          |            |            |           |               |               |
| 1711  | 1.2D+1L+1E | Combination | Min      | -5.242240  | -12.556719 | -3.412571 | -0.000896     | -0.000345     |
|       | y          |             |          |            |            |           |               |               |
| 1711  | 0.9D+1Ey   | Combination | Max      | 5.431041   | 12.354145  | 1.795803  | 0.000918      | 0.000391      |
| 1711  | 0.9D+1Ey   | Combination | Min      | -5.289998  | -12.487138 | -3.131829 | -0.000902     | -0.000358     |
| 1711  | 1D+0.5L    | Combination |          | 0.090483   | -0.097593  | -0.771272 | 0.000011      | 0.000022      |
| 1712  | 1.4D       | Combination |          | 0.092234   | -0.150308  | -1.093010 | 0.000013      | 8.120E-06     |
| 1712  | 1.2D+1.6L  | Combination |          | 0.123687   | -0.209495  | -1.058398 | 0.000018      | 0.000011      |
| 1712  | 1.2D+1L+1E | Combination | Max      | 19.935324  | 7.724480   | 1.008331  | 0.000585      | 0.001420      |
| 1712  | 1.2D+1L+1E | Combination | Min      | -19.721422 | -8.082976  | -3.033977 | -0.000554     | -0.001401     |
| 1712  | 0.9D+1E    | Combination | Max      | 19.887666  | 7.807101   | 1.318505  | 0.000578      | 0.001416      |
| 1712  | 0.9D+1E    | Combination | Min      | -19.769080 | -8.000354  | -2.723803 | -0.000561     | -0.001405     |
| 1712  | 1.2D+1L+1E | Combination | Max      | 5.219221   | 12.236794  | 0.617677  | 0.000951      | 0.000373      |
|       | y          |             |          |            |            |           |               |               |
| 1712  | 1.2D+1L+1E | Combination | Min      | -5.005320  | -12.595290 | -2.643324 | -0.000920     | -0.000354     |
|       | y          |             |          |            |            |           |               |               |
| 1712  | 0.9D+1Ey   | Combination | Max      | 5.171564   | 12.319415  | 0.927852  | 0.000944      | 0.000369      |
| 1712  | 0.9D+1Ey   | Combination | Min      | -5.052977  | -12.512668 | -2.333150 | -0.000927     | -0.000358     |
| 1712  | 1D+0.5L    | Combination |          | 0.079828   | -0.132569  | -0.818700 | 0.000011      | 7.064E-06     |
| 1713  | 1.4D       | Combination |          | 0.137875   | -0.110961  | -1.140509 | -7.254E-06    | 0.000017      |
| 1713  | 1.2D+1.6L  | Combination |          | 0.168213   | -0.164538  | -1.116999 | -0.000011     | 0.000019      |
| 1713  | 1.2D+1L+1E | Combination | Max      | 19.989638  | 6.737785   | 2.575528  | 0.000476      | 0.001422      |
| 1713  | 1.2D+1L+1E | Combination | Min      | -19.690738 | -7.014790  | -4.704961 | -0.000495     | -0.001387     |
| 1713  | 0.9D+1E    | Combination | Max      | 19.928822  | 6.804955   | 2.907060  | 0.000481      | 0.001415      |
| 1713  | 0.9D+1E    | Combination | Min      | -19.751554 | -6.947619  | -4.373428 | -0.000490     | -0.001393     |
| 1713  | 1.2D+1L+1E | Combination | Max      | 5.265444   | 12.280999  | 0.689734  | 0.000928      | 0.000379      |
|       | y          |             |          |            |            |           |               |               |
| 1713  | 1.2D+1L+1E | Combination | Min      | -4.966543  | -12.558004 | -2.819167 | -0.000947     | -0.000344     |
|       | y          |             |          |            |            |           |               |               |
| 1713  | 0.9D+1Ey   | Combination | Max      | 5.204627   | 12.348169  | 1.021266  | 0.000933      | 0.000372      |
| 1713  | 0.9D+1Ey   | Combination | Min      | -5.027359  | -12.490834 | -2.487635 | -0.000942     | -0.000351     |
| 1713  | 1D+0.5L    | Combination |          | 0.114118   | -0.100954  | -0.858218 | -6.827E-06    | 0.000013      |
| 1714  | 1.4D       | Combination |          | 0.101730   | -0.068879  | -1.289096 | 8.898E-06     | 9.908E-06     |
| 1714  | 1.2D+1.6L  | Combination |          | 0.124653   | -0.097678  | -1.299018 | 0.000012      | 0.000012      |
| 1714  | 1.2D+1L+1E | Combination | Max      | 20.848482  | 4.391705   | -0.136719 | 0.000343      | 0.001484      |
| 1714  | 1.2D+1L+1E | Combination | Min      | -20.627269 | -4.558082  | -2.315759 | -0.000322     | -0.001463     |
| 1714  | 0.9D+1E    | Combination | Max      | 20.803273  | 4.430615   | 0.260815  | 0.000338      | 0.001480      |
| 1714  | 0.9D+1E    | Combination | Min      | -20.672478 | -4.519173  | -1.918225 | -0.000327     | -0.001468     |
| 1714  | 1.2D+1L+1E | Combination | Max      | 5.472655   | 12.372311  | 0.784241  | 0.000934      | 0.000391      |
|       | y          |             |          |            |            |           |               |               |
| 1714  | 1.2D+1L+1E | Combination | Min      | -5.251441  | -12.538688 | -3.236718 | -0.000914     | -0.000370     |
|       | y          |             |          |            |            |           |               |               |
| 1714  | 0.9D+1Ey   | Combination | Max      | 5.427446   | 12.411220  | 1.181775  | 0.000930      | 0.000386      |
| 1714  | 0.9D+1Ey   | Combination | Min      | -5.296651  | -12.499778 | -2.839184 | -0.000919     | -0.000374     |
| 1714  | 1D+0.5L    | Combination |          | 0.084369   | -0.061274  | -0.981433 | 7.577E-06     | 8.075E-06     |
| 1715  | 1.4D       | Combination |          | 0.127448   | -0.086276  | -1.313141 | -5.997E-06    | 0.000012      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1715  | 1.2D+1.6L       | Combination |          | 0.150631   | -0.111514  | -1.327913 | -0.000014     | 0.000014      |
| 1715  | 1.2D+1L+1E      | Combination | Max      | 20.876066  | 4.292753   | 1.127769  | 0.000268      | 0.001475      |
| 1715  | 1.2D+1L+1E      | Combination | Min      | -20.605847 | -4.487610  | -3.631822 | -0.000289     | -0.001449     |
| 1715  | 0.9D+1E         | Combination | Max      | 20.822887  | 4.334718   | 1.535633  | 0.000274      | 0.001470      |
| 1715  | 0.9D+1E         | Combination | Min      | -20.659026 | -4.445645  | -3.223958 | -0.000282     | -0.001455     |
| 1715  | 1.2D+1L+1E<br>y | Combination | Max      | 5.497101   | 12.366831  | 0.822079  | 0.000762      | 0.000390      |
| 1715  | 1.2D+1L+1E<br>y | Combination | Min      | -5.226881  | -12.561687 | -3.326132 | -0.000783     | -0.000364     |
| 1715  | 0.9D+1Ey        | Combination | Max      | 5.443922   | 12.408795  | 1.229943  | 0.000769      | 0.000385      |
| 1715  | 0.9D+1Ey        | Combination | Min      | -5.280060  | -12.519722 | -2.918267 | -0.000777     | -0.000369     |
| 1715  | 1D+0.5L         | Combination |          | 0.103969   | -0.073364  | -1.001196 | -6.978E-06    | 9.882E-06     |
| 1716  | 1.4D            | Combination |          | 0.110758   | -0.119715  | -1.330023 | 8.025E-06     | 0.000012      |
| 1716  | 1.2D+1.6L       | Combination |          | 0.141408   | -0.149193  | -1.351080 | 0.000010      | 0.000014      |
| 1716  | 1.2D+1L+1E      | Combination | Max      | 20.025182  | 4.345159   | -0.064178 | 0.000342      | 0.001426      |
| 1716  | 1.2D+1L+1E      | Combination | Min      | -19.777220 | -4.608610  | -2.479687 | -0.000324     | -0.001400     |
| 1716  | 0.9D+1E         | Combination | Max      | 19.972403  | 4.399925   | 0.352740  | 0.000339      | 0.001421      |
| 1716  | 0.9D+1E         | Combination | Min      | -19.829999 | -4.553844  | -2.062769 | -0.000328     | -0.001406     |
| 1716  | 1.2D+1L+1E<br>y | Combination | Max      | 5.253241   | 12.324350  | 0.691650  | 0.000936      | 0.000376      |
| 1716  | 1.2D+1L+1E<br>y | Combination | Min      | -5.005279  | -12.587800 | -3.235515 | -0.000919     | -0.000351     |
| 1716  | 0.9D+1Ey        | Combination | Max      | 5.200462   | 12.379115  | 1.108568  | 0.000933      | 0.000371      |
| 1716  | 0.9D+1Ey        | Combination | Min      | -5.058058  | -12.533034 | -2.818597 | -0.000922     | -0.000356     |
| 1716  | 1D+0.5L         | Combination |          | 0.093636   | -0.100067  | -1.015973 | 6.768E-06     | 9.735E-06     |
| 1717  | 1.4D            | Combination |          | 0.136004   | -0.091724  | -1.358407 | 9.166E-06     | 0.000014      |
| 1717  | 1.2D+1.6L       | Combination |          | 0.167137   | -0.117032  | -1.385717 | 0.000020      | 0.000018      |
| 1717  | 1.2D+1L+1E      | Combination | Max      | 20.050979  | 4.287480   | 0.793360  | 0.000298      | 0.001396      |
| 1717  | 1.2D+1L+1E      | Combination | Min      | -19.754627 | -4.492735  | -3.398768 | -0.000267     | -0.001365     |
| 1717  | 0.9D+1E         | Combination | Max      | 19.990234  | 4.331142   | 1.222803  | 0.000289      | 0.001390      |
| 1717  | 0.9D+1E         | Combination | Min      | -19.815372 | -4.449073  | -2.969326 | -0.000277     | -0.001371     |
| 1717  | 1.2D+1L+1E<br>y | Combination | Max      | 5.278312   | 12.361201  | 0.675689  | 0.000816      | 0.000372      |
| 1717  | 1.2D+1L+1E<br>y | Combination | Min      | -4.981960  | -12.566457 | -3.281097 | -0.000785     | -0.000340     |
| 1717  | 0.9D+1Ey        | Combination | Max      | 5.217568   | 12.404863  | 1.105131  | 0.000807      | 0.000365      |
| 1717  | 0.9D+1Ey        | Combination | Min      | -5.042705  | -12.522795 | -2.851654 | -0.000795     | -0.000347     |
| 1717  | 1D+0.5L         | Combination |          | 0.112946   | -0.077521  | -1.039468 | 0.000010      | 0.000012      |
| 1718  | 1.4D            | Combination |          | 0.122857   | -0.014572  | -1.262325 | 5.543E-06     | 7.019E-06     |
| 1718  | 1.2D+1.6L       | Combination |          | 0.145947   | 0.000029   | -1.280838 | 4.614E-06     | 7.564E-06     |
| 1718  | 1.2D+1L+1E      | Combination | Max      | 20.864027  | 8.525335   | 0.175051  | 0.000576      | 0.001420      |
| 1718  | 1.2D+1L+1E      | Combination | Min      | -20.602615 | -8.534667  | -2.587593 | -0.000567     | -0.001406     |
| 1718  | 0.9D+1E         | Combination | Max      | 20.812300  | 8.520633   | 0.569827  | 0.000575      | 0.001418      |
| 1718  | 0.9D+1E         | Combination | Min      | -20.654342 | -8.539369  | -2.192817 | -0.000568     | -0.001409     |
| 1718  | 1.2D+1L+1E<br>y | Combination | Max      | 5.491170   | 12.770553  | 1.012939  | 0.000900      | 0.000372      |
| 1718  | 1.2D+1L+1E<br>y | Combination | Min      | -5.229757  | -12.779884 | -3.425482 | -0.000891     | -0.000358     |
| 1718  | 0.9D+1Ey        | Combination | Max      | 5.439443   | 12.765850  | 1.407716  | 0.000899      | 0.000370      |
| 1718  | 0.9D+1Ey        | Combination | Min      | -5.281485  | -12.784586 | -3.030705 | -0.000892     | -0.000361     |
| 1718  | 1D+0.5L         | Combination |          | 0.100455   | -0.006496  | -0.963800 | 3.916E-06     | 5.497E-06     |
| 1719  | 1.4D            | Combination |          | 0.161302   | -0.061412  | -1.283542 | 6.073E-06     | 0.000016      |
| 1719  | 1.2D+1.6L       | Combination |          | 0.191984   | -0.047439  | -1.298187 | 5.992E-06     | 0.000019      |
| 1719  | 1.2D+1L+1E      | Combination | Max      | 20.005795  | 8.492175   | 0.741443  | 0.000603      | 0.001423      |
| 1719  | 1.2D+1L+1E      | Combination | Min      | -19.662120 | -8.590953  | -3.189311 | -0.000591     | -0.001389     |
| 1719  | 0.9D+1E         | Combination | Max      | 19.937652  | 8.502085   | 1.140243  | 0.000601      | 0.001416      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1719  | 0.9D+1E         | Combination | Min      | -19.730263 | -8.581043  | -2.790511 | -0.000593     | -0.001395     |
| 1719  | 1.2D+1L+1E<br>y | Combination | Max      | 5.284601   | 12.731111  | 0.614677  | 0.000938      | 0.000379      |
| 1719  | 1.2D+1L+1E<br>y | Combination | Min      | -4.940926  | -12.829888 | -3.062546 | -0.000926     | -0.000345     |
| 1719  | 0.9D+1Ey        | Combination | Max      | 5.216458   | 12.741021  | 1.013477  | 0.000936      | 0.000372      |
| 1719  | 0.9D+1Ey        | Combination | Min      | -5.009069  | -12.819978 | -2.663746 | -0.000928     | -0.000351     |
| 1719  | 1D+0.5L         | Combination |          | 0.132005   | -0.042241  | -0.978693 | 4.584E-06     | 0.000013      |
| 1720  | 1.4D            | Combination |          | 0.237264   | -0.170702  | -1.390200 | 0.000024      | 0.000023      |
| 1720  | 1.2D+1.6L       | Combination |          | 0.307165   | -0.218541  | -1.426706 | 0.000035      | 0.000029      |
| 1720  | 1.2D+1L+1E      | Combination | Max      | 17.824900  | 5.612508   | 2.350034  | 0.000456      | 0.001275      |
| 1720  | 1.2D+1L+1E      | Combination | Min      | -17.288417 | -5.995422  | -5.027117 | -0.000397     | -0.001224     |
| 1720  | 0.9D+1E         | Combination | Max      | 17.709185  | 5.694228   | 2.794876  | 0.000442      | 0.001264      |
| 1720  | 0.9D+1E         | Combination | Min      | -17.404131 | -5.913702  | -4.582276 | -0.000411     | -0.001234     |
| 1720  | 1.2D+1L+1E<br>y | Combination | Max      | 4.800517   | 12.353795  | 0.374716  | 0.000913      | 0.000347      |
| 1720  | 1.2D+1L+1E<br>y | Combination | Min      | -4.264034  | -12.736709 | -3.051799 | -0.000855     | -0.000297     |
| 1720  | 0.9D+1Ey        | Combination | Max      | 4.684803   | 12.435515  | 0.819557  | 0.000900      | 0.000337      |
| 1720  | 0.9D+1Ey        | Combination | Min      | -4.379749  | -12.654990 | -2.606957 | -0.000869     | -0.000307     |
| 1720  | 1D+0.5L         | Combination |          | 0.201911   | -0.144501  | -1.066471 | 0.000022      | 0.000019      |
| 1721  | 1.4D            | Combination |          | 0.182543   | -0.153603  | -1.324741 | 0.000015      | 0.000011      |
| 1721  | 1.2D+1.6L       | Combination |          | 0.251352   | -0.208053  | -1.340202 | 0.000020      | 0.000016      |
| 1721  | 1.2D+1L+1E      | Combination | Max      | 17.752982  | 6.440019   | 0.110296  | 0.000507      | 0.001254      |
| 1721  | 1.2D+1L+1E      | Combination | Min      | -17.321443 | -6.798830  | -2.637167 | -0.000472     | -0.001228     |
| 1721  | 0.9D+1E         | Combination | Max      | 17.654561  | 6.520679   | 0.522112  | 0.000499      | 0.001248      |
| 1721  | 0.9D+1E         | Combination | Min      | -17.419863 | -6.718169  | -2.225350 | -0.000480     | -0.001234     |
| 1721  | 1.2D+1L+1E<br>y | Combination | Max      | 4.742550   | 12.398760  | 0.235386  | 0.000962      | 0.000333      |
| 1721  | 1.2D+1L+1E<br>y | Combination | Min      | -4.311011  | -12.757570 | -2.762257 | -0.000928     | -0.000307     |
| 1721  | 0.9D+1Ey        | Combination | Max      | 4.644130   | 12.479420  | 0.647203  | 0.000955      | 0.000327      |
| 1721  | 0.9D+1Ey        | Combination | Min      | -4.409432  | -12.676910 | -2.350441 | -0.000935     | -0.000313     |
| 1721  | 1D+0.5L         | Combination |          | 0.160040   | -0.133589  | -1.010215 | 0.000013      | 9.748E-06     |
| 1722  | 1.4D            | Combination |          | 0.239056   | -0.209422  | -1.398441 | 0.000020      | -0.000041     |
| 1722  | 1.2D+1.6L       | Combination |          | 0.317199   | -0.265032  | -1.438317 | 0.000026      | -0.000053     |
| 1722  | 1.2D+1L+1E      | Combination | Max      | 17.775484  | 6.394935   | 0.636812  | 0.000507      | 0.000895      |
| 1722  | 1.2D+1L+1E      | Combination | Min      | -17.225306 | -6.860854  | -3.333706 | -0.000461     | -0.000988     |
| 1722  | 0.9D+1E         | Combination | Max      | 17.654074  | 6.493266   | 1.086261  | 0.000497      | 0.000915      |
| 1722  | 0.9D+1E         | Combination | Min      | -17.346716 | -6.762523  | -2.884257 | -0.000471     | -0.000968     |
| 1722  | 1.2D+1L+1E<br>y | Combination | Max      | 4.818494   | 12.355415  | 1.451013  | 0.000955      | 0.000206      |
| 1722  | 1.2D+1L+1E<br>y | Combination | Min      | -4.268316  | -12.821333 | -4.147907 | -0.000910     | -0.000299     |
| 1722  | 0.9D+1Ey        | Combination | Max      | 4.697084   | 12.453746  | 1.900462  | 0.000945      | 0.000226      |
| 1722  | 0.9D+1Ey        | Combination | Min      | -4.389726  | -12.723002 | -3.698458 | -0.000920     | -0.000279     |
| 1722  | 1D+0.5L         | Combination |          | 0.205846   | -0.176314  | -1.073778 | 0.000017      | -0.000035     |
| 1723  | 1.4D            | Combination |          | 0.227698   | -0.096577  | -1.247771 | -0.000028     | 0.000019      |
| 1723  | 1.2D+1.6L       | Combination |          | 0.297278   | -0.121789  | -1.275516 | -0.000038     | 0.000025      |
| 1723  | 1.2D+1L+1E      | Combination | Max      | 17.873354  | 4.283298   | 0.853532  | 0.000247      | 0.001251      |
| 1723  | 1.2D+1L+1E      | Combination | Min      | -17.355380 | -4.497619  | -3.250066 | -0.000312     | -0.001207     |
| 1723  | 0.9D+1E         | Combination | Max      | 17.760745  | 4.328374   | 1.249660  | 0.000262      | 0.001241      |
| 1723  | 0.9D+1E         | Combination | Min      | -17.467990 | -4.452544  | -2.853938 | -0.000297     | -0.001217     |
| 1723  | 1.2D+1L+1E<br>y | Combination | Max      | 4.805952   | 12.358393  | 0.896330  | 0.000759      | 0.000339      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1723  | 1.2D+1L+1E<br>y | Combination | Min      | -4.287978  | -12.572713 | -3.292863 | -0.000825     | -0.000295     |
| 1723  | 0.9D+1Ey        | Combination | Max      | 4.693343   | 12.403468  | 1.292457  | 0.000774      | 0.000330      |
| 1723  | 0.9D+1Ey        | Combination | Min      | -4.400588  | -12.527638 | -2.896735 | -0.000810     | -0.000305     |
| 1723  | 1D+0.5L         | Combination |          | 0.194550   | -0.081174  | -0.955639 | -0.000024     | 0.000017      |
| 1724  | 1.4D            | Combination |          | 0.202365   | -0.085785  | -1.209224 | 9.809E-06     | 0.000017      |
| 1724  | 1.2D+1.6L       | Combination |          | 0.271462   | -0.114613  | -1.224693 | 0.000013      | 0.000023      |
| 1724  | 1.2D+1L+1E      | Combination | Max      | 17.844767  | 4.374750   | -0.127746 | 0.000343      | 0.001276      |
| 1724  | 1.2D+1L+1E      | Combination | Min      | -17.375348 | -4.573164  | -2.180478 | -0.000321     | -0.001237     |
| 1724  | 0.9D+1E         | Combination | Max      | 17.740150  | 4.418809   | 0.249008  | 0.000338      | 0.001268      |
| 1724  | 0.9D+1E         | Combination | Min      | -17.479966 | -4.529105  | -1.803725 | -0.000326     | -0.001246     |
| 1724  | 1.2D+1L+1E<br>y | Combination | Max      | 4.780108   | 12.377431  | 0.913613  | 0.000936      | 0.000344      |
| 1724  | 1.2D+1L+1E<br>y | Combination | Min      | -4.310689  | -12.575844 | -3.221837 | -0.000914     | -0.000304     |
| 1724  | 0.9D+1Ey        | Combination | Max      | 4.675490   | 12.421490  | 1.290367  | 0.000932      | 0.000335      |
| 1724  | 0.9D+1Ey        | Combination | Min      | -4.415306  | -12.531785 | -2.845083 | -0.000919     | -0.000313     |
| 1724  | 1D+0.5L         | Combination |          | 0.175174   | -0.074114  | -0.922549 | 8.320E-06     | 0.000015      |
| 1725  | 1.4D            | Combination |          | 0.233287   | -0.136683  | -1.249551 | 9.037E-06     | 0.000019      |
| 1725  | 1.2D+1.6L       | Combination |          | 0.311242   | -0.166556  | -1.277336 | 0.000012      | 0.000025      |
| 1725  | 1.2D+1L+1E      | Combination | Max      | 17.776597  | 4.326535   | -0.148145 | 0.000342      | 0.001257      |
| 1725  | 1.2D+1L+1E      | Combination | Min      | -17.237574 | -4.622598  | -2.251807 | -0.000321     | -0.001213     |
| 1725  | 0.9D+1E         | Combination | Max      | 17.657056  | 4.386699   | 0.248548  | 0.000337      | 0.001247      |
| 1725  | 0.9D+1E         | Combination | Min      | -17.357116 | -4.562434  | -1.855114 | -0.000325     | -0.001223     |
| 1725  | 1.2D+1L+1E<br>y | Combination | Max      | 4.814851   | 12.329550  | 0.874989  | 0.000933      | 0.000342      |
| 1725  | 1.2D+1L+1E<br>y | Combination | Min      | -4.275828  | -12.625613 | -3.274941 | -0.000913     | -0.000298     |
| 1725  | 0.9D+1Ey        | Combination | Max      | 4.695310   | 12.389714  | 1.271682  | 0.000929      | 0.000332      |
| 1725  | 0.9D+1Ey        | Combination | Min      | -4.395370  | -12.565449 | -2.878248 | -0.000917     | -0.000307     |
| 1725  | 1D+0.5L         | Combination |          | 0.201409   | -0.113068  | -0.957003 | 7.713E-06     | 0.000017      |
| 1726  | 1.4D            | Combination |          | 0.256530   | -0.101056  | -1.290640 | 0.000012      | 0.000020      |
| 1726  | 1.2D+1.6L       | Combination |          | 0.335163   | -0.126288  | -1.332153 | 0.000015      | 0.000027      |
| 1726  | 1.2D+1L+1E      | Combination | Max      | 17.800824  | 4.279918   | 0.750372  | 0.000329      | 0.001238      |
| 1726  | 1.2D+1L+1E      | Combination | Min      | -17.216958 | -4.502743  | -3.245260 | -0.000303     | -0.001191     |
| 1726  | 0.9D+1E         | Combination | Max      | 17.673803  | 4.326366   | 1.168119  | 0.000324      | 0.001227      |
| 1726  | 0.9D+1E         | Combination | Min      | -17.343979 | -4.456295  | -2.827513 | -0.000308     | -0.001201     |
| 1726  | 1.2D+1L+1E<br>y | Combination | Max      | 4.837045   | 12.356551  | 0.854455  | 0.000905      | 0.000338      |
| 1726  | 1.2D+1L+1E<br>y | Combination | Min      | -4.253179  | -12.579376 | -3.349344 | -0.000879     | -0.000291     |
| 1726  | 0.9D+1Ey        | Combination | Max      | 4.710024   | 12.402999  | 1.272203  | 0.000899      | 0.000328      |
| 1726  | 0.9D+1Ey        | Combination | Min      | -4.380200  | -12.532928 | -2.931596 | -0.000884     | -0.000302     |
| 1726  | 1D+0.5L         | Combination |          | 0.219261   | -0.084579  | -0.992476 | 9.901E-06     | 0.000017      |
| 1727  | 1.4D            | Combination |          | 0.215486   | 0.003260   | -1.070499 | 0.000017      | 0.000011      |
| 1727  | 1.2D+1.6L       | Combination |          | 0.285373   | 0.015918   | -1.002500 | 0.000024      | 0.000016      |
| 1727  | 1.2D+1L+1E      | Combination | Max      | 17.769059  | 7.014415   | 2.645046  | 0.000520      | 0.001261      |
| 1727  | 1.2D+1L+1E      | Combination | Min      | -17.273816 | -6.992422  | -4.586348 | -0.000479     | -0.001234     |
| 1727  | 0.9D+1E         | Combination | Max      | 17.659964  | 7.005514   | 2.927519  | 0.000510      | 0.001255      |
| 1727  | 0.9D+1E         | Combination | Min      | -17.382911 | -7.001323  | -4.303875 | -0.000489     | -0.001241     |
| 1727  | 1.2D+1L+1E<br>y | Combination | Max      | 4.771755   | 12.402522  | 0.599455  | 0.000888      | 0.000335      |
| 1727  | 1.2D+1L+1E<br>y | Combination | Min      | -4.276512  | -12.380529 | -2.540758 | -0.000847     | -0.000308     |
| 1727  | 0.9D+1Ey        | Combination | Max      | 4.662660   | 12.393621  | 0.881928  | 0.000878      | 0.000329      |
| 1727  | 0.9D+1Ey        | Combination | Min      | -4.385606  | -12.389430 | -2.258285 | -0.000856     | -0.000314     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1727  | 1D+0.5L    | Combination |          | 0.185378   | 0.006430   | -0.791183 | 0.000015      | 0.000010      |
| 1728  | 1.4D       | Combination |          | 0.260383   | 0.036028   | -1.133637 | -3.183E-07    | 0.000021      |
| 1728  | 1.2D+1.6L  | Combination |          | 0.327941   | 0.056088   | -1.086201 | -2.140E-06    | 0.000027      |
| 1728  | 1.2D+1L+1E | Combination | Max      | 17.790181  | 7.925911   | 0.429133  | 0.000577      | 0.001268      |
| 1728  | 1.2D+1L+1E | Combination | Min      | -17.212867 | -7.832640  | -2.515651 | -0.000580     | -0.001221     |
| 1728  | 0.9D+1E    | Combination | Max      | 17.668913  | 7.902436   | 0.743625  | 0.000578      | 0.001258      |
| 1728  | 0.9D+1E    | Combination | Min      | -17.334135 | -7.856115  | -2.201159 | -0.000579     | -0.001231     |
| 1728  | 1.2D+1L+1E | Combination | Max      | 4.808984   | 12.376972  | 0.316155  | 0.000932      | 0.000344      |
|       | y          |             |          |            |            |           |               |               |
| 1728  | 1.2D+1L+1E | Combination | Min      | -4.231669  | -12.283701 | -2.402674 | -0.000935     | -0.000297     |
|       | y          |             |          |            |            |           |               |               |
| 1728  | 0.9D+1Ey   | Combination | Max      | 4.687716   | 12.353497  | 0.630648  | 0.000933      | 0.000335      |
| 1728  | 0.9D+1Ey   | Combination | Min      | -4.352937  | -12.307176 | -2.088181 | -0.000933     | -0.000307     |
| 1728  | 1D+0.5L    | Combination |          | 0.218724   | 0.033611   | -0.845526 | -8.108E-07    | 0.000018      |
| 1729  | 1.4D       | Combination |          | 0.232686   | -0.017763  | -1.137603 | -1.150E-07    | 6.678E-06     |
| 1729  | 1.2D+1.6L  | Combination |          | 0.311942   | 0.004472   | -1.084756 | -1.448E-06    | 7.810E-06     |
| 1729  | 1.2D+1L+1E | Combination | Max      | 17.788797  | 7.890430   | 1.300218  | 0.000579      | 0.001149      |
| 1729  | 1.2D+1L+1E | Combination | Min      | -17.249286 | -7.896259  | -3.387479 | -0.000581     | -0.001135     |
| 1729  | 0.9D+1E    | Combination | Max      | 17.668626  | 7.881926   | 1.612533  | 0.000580      | 0.001146      |
| 1729  | 0.9D+1E    | Combination | Min      | -17.369457 | -7.904763  | -3.075165 | -0.000580     | -0.001138     |
| 1729  | 1.2D+1L+1E | Combination | Max      | 4.817938   | 12.346012  | 1.849663  | 0.000931      | 0.000314      |
|       | y          |             |          |            |            |           |               |               |
| 1729  | 1.2D+1L+1E | Combination | Min      | -4.278427  | -12.351841 | -3.936924 | -0.000933     | -0.000300     |
|       | y          |             |          |            |            |           |               |               |
| 1729  | 0.9D+1Ey   | Combination | Max      | 4.697767   | 12.337507  | 2.161977  | 0.000932      | 0.000311      |
| 1729  | 0.9D+1Ey   | Combination | Min      | -4.398599  | -12.360345 | -3.624610 | -0.000932     | -0.000303     |
| 1729  | 1D+0.5L    | Combination |          | 0.201360   | -0.006532  | -0.846845 | -5.039E-07    | 5.422E-06     |
| 1730  | 1.4D       | Combination |          | 0.145215   | -0.146416  | -1.163437 | 0.000015      | 0.000027      |
| 1730  | 1.2D+1.6L  | Combination |          | 0.175262   | -0.223804  | -1.101632 | 0.000020      | 0.000036      |
| 1730  | 1.2D+1L+1E | Combination | Max      | 25.528774  | 9.493478   | 0.558855  | 0.000595      | 0.001541      |
| 1730  | 1.2D+1L+1E | Combination | Min      | -25.216344 | -9.867357  | -2.683819 | -0.000560     | -0.001479     |
| 1730  | 0.9D+1E    | Combination | Max      | 25.465912  | 9.586293   | 0.873413  | 0.000588      | 0.001527      |
| 1730  | 0.9D+1E    | Combination | Min      | -25.279206 | -9.774542  | -2.369260 | -0.000568     | -0.001493     |
| 1730  | 1.2D+1L+1E | Combination | Max      | 6.711807   | 15.238428  | 1.537510  | 0.000986      | 0.000420      |
|       | y          |             |          |            |            |           |               |               |
| 1730  | 1.2D+1L+1E | Combination | Min      | -6.399377  | -15.612308 | -3.662474 | -0.000951     | -0.000358     |
|       | y          |             |          |            |            |           |               |               |
| 1730  | 0.9D+1Ey   | Combination | Max      | 6.648945   | 15.331244  | 1.852069  | 0.000978      | 0.000406      |
| 1730  | 0.9D+1Ey   | Combination | Min      | -6.462239  | -15.519493 | -3.347916 | -0.000959     | -0.000372     |
| 1730  | 1D+0.5L    | Combination |          | 0.119598   | -0.135303  | -0.863651 | 0.000013      | 0.000023      |
| 1731  | 1.4D       | Combination |          | 0.131557   | -0.191156  | -1.225858 | 0.000015      | 0.000017      |
| 1731  | 1.2D+1.6L  | Combination |          | 0.171874   | -0.266753  | -1.187301 | 0.000021      | 0.000020      |
| 1731  | 1.2D+1L+1E | Combination | Max      | 24.451312  | 9.462680   | 0.995767  | 0.000613      | 0.001496      |
| 1731  | 1.2D+1L+1E | Combination | Min      | -24.151897 | -9.919007  | -3.267945 | -0.000576     | -0.001460     |
| 1731  | 0.9D+1E    | Combination | Max      | 24.386177  | 9.567957   | 1.343804  | 0.000604      | 0.001489      |
| 1731  | 0.9D+1E    | Combination | Min      | -24.217032 | -9.813729  | -2.919907 | -0.000584     | -0.001467     |
| 1731  | 1.2D+1L+1E | Combination | Max      | 6.411864   | 15.196331  | 0.631288  | 0.001013      | 0.000398      |
|       | y          |             |          |            |            |           |               |               |
| 1731  | 1.2D+1L+1E | Combination | Min      | -6.112449  | -15.652659 | -2.903466 | -0.000977     | -0.000362     |
|       | y          |             |          |            |            |           |               |               |
| 1731  | 0.9D+1Ey   | Combination | Max      | 6.346729   | 15.301609  | 0.979326  | 0.001005      | 0.000391      |
| 1731  | 0.9D+1Ey   | Combination | Min      | -6.177584  | -15.547381 | -2.555429 | -0.000985     | -0.000369     |
| 1731  | 1D+0.5L    | Combination |          | 0.112442   | -0.168698  | -0.918290 | 0.000014      | 0.000014      |
| 1732  | 1.4D       | Combination |          | 0.175842   | -0.150583  | -1.278873 | -5.851E-06    | 0.000011      |
| 1732  | 1.2D+1.6L  | Combination |          | 0.215095   | -0.218746  | -1.252651 | -9.631E-06    | 0.000014      |
| 1732  | 1.2D+1L+1E | Combination | Max      | 24.499080  | 8.267208   | 2.593460  | 0.000502      | 0.001465      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1732  | 1.2D+1L+1E      | Combination | Min      | -24.117171 | -8.637444  | -4.981407 | -0.000518     | -0.001441     |
| 1732  | 0.9D+1E         | Combination | Max      | 24.421166  | 8.355523   | 2.965300  | 0.000507      | 0.001460      |
| 1732  | 0.9D+1E         | Combination | Min      | -24.195084 | -8.549130  | -4.609566 | -0.000514     | -0.001446     |
| 1732  | 1.2D+1L+1E<br>y | Combination | Max      | 6.455467   | 15.230300  | 0.689789  | 0.000990      | 0.000386      |
| 1732  | 1.2D+1L+1E<br>y | Combination | Min      | -6.073558  | -15.600536 | -3.077737 | -0.001006     | -0.000362     |
| 1732  | 0.9D+1Ey        | Combination | Max      | 6.377553   | 15.318614  | 1.061630  | 0.000994      | 0.000381      |
| 1732  | 0.9D+1Ey        | Combination | Min      | -6.151471  | -15.512222 | -2.705896 | -0.001002     | -0.000367     |
| 1732  | 1D+0.5L         | Combination |          | 0.145718   | -0.135583  | -0.962379 | -5.622E-06    | 9.119E-06     |
| 1733  | 1.4D            | Combination |          | 0.137666   | -0.099622  | -1.443750 | 0.000011      | 0.000012      |
| 1733  | 1.2D+1.6L       | Combination |          | 0.167497   | -0.137004  | -1.454981 | 0.000014      | 0.000014      |
| 1733  | 1.2D+1L+1E      | Combination | Max      | 25.527754  | 5.426368   | -0.215624 | 0.000366      | 0.001546      |
| 1733  | 1.2D+1L+1E      | Combination | Min      | -25.229882 | -5.661665  | -2.531227 | -0.000341     | -0.001521     |
| 1733  | 0.9D+1E         | Combination | Max      | 25.467318  | 5.479974   | 0.229677  | 0.000360      | 0.001541      |
| 1733  | 0.9D+1E         | Combination | Min      | -25.290318 | -5.608059  | -2.085927 | -0.000346     | -0.001526     |
| 1733  | 1.2D+1L+1E<br>y | Combination | Max      | 6.706012   | 15.311751  | 0.768113  | 0.000994      | 0.000407      |
| 1733  | 1.2D+1L+1E<br>y | Combination | Min      | -6.408140  | -15.547049 | -3.514964 | -0.000969     | -0.000383     |
| 1733  | 0.9D+1Ey        | Combination | Max      | 6.645576   | 15.365357  | 1.213413  | 0.000989      | 0.000403      |
| 1733  | 0.9D+1Ey        | Combination | Min      | -6.468576  | -15.493442 | -3.069663 | -0.000974     | -0.000388     |
| 1733  | 1D+0.5L         | Combination |          | 0.113801   | -0.087288  | -1.099213 | 9.416E-06     | 9.394E-06     |
| 1734  | 1.4D            | Combination |          | 0.162066   | -0.114559  | -1.470476 | 2.181E-06     | 0.000013      |
| 1734  | 1.2D+1.6L       | Combination |          | 0.192145   | -0.147477  | -1.487104 | -5.620E-06    | 0.000016      |
| 1734  | 1.2D+1L+1E      | Combination | Max      | 25.551874  | 5.309259   | 1.062545  | 0.000292      | 0.001532      |
| 1734  | 1.2D+1L+1E      | Combination | Min      | -25.207507 | -5.567251  | -3.866730 | -0.000297     | -0.001503     |
| 1734  | 0.9D+1E         | Combination | Max      | 25.483876  | 5.364610   | 1.519332  | 0.000296      | 0.001526      |
| 1734  | 0.9D+1E         | Combination | Min      | -25.275506 | -5.511900  | -3.409943 | -0.000293     | -0.001509     |
| 1734  | 1.2D+1L+1E<br>y | Combination | Max      | 6.728704   | 15.309597  | 0.810688  | 0.000815      | 0.000405      |
| 1734  | 1.2D+1L+1E<br>y | Combination | Min      | -6.384337  | -15.567589 | -3.614873 | -0.000821     | -0.000377     |
| 1734  | 0.9D+1Ey        | Combination | Max      | 6.660706   | 15.364948  | 1.267475  | 0.000819      | 0.000399      |
| 1734  | 0.9D+1Ey        | Combination | Min      | -6.452335  | -15.512239 | -3.158086 | -0.000817     | -0.000382     |
| 1734  | 1D+0.5L         | Combination |          | 0.132396   | -0.097229  | -1.121182 | -7.824E-07    | 0.000011      |
| 1735  | 1.4D            | Combination |          | 0.149767   | -0.148027  | -1.490774 | 0.000011      | 0.000014      |
| 1735  | 1.2D+1.6L       | Combination |          | 0.189218   | -0.186074  | -1.514696 | 0.000013      | 0.000017      |
| 1735  | 1.2D+1L+1E      | Combination | Max      | 24.536372  | 5.381691   | -0.143424 | 0.000366      | 0.001486      |
| 1735  | 1.2D+1L+1E      | Combination | Min      | -24.203570 | -5.709444  | -2.708300 | -0.000342     | -0.001457     |
| 1735  | 0.9D+1E         | Combination | Max      | 24.466250  | 5.450408   | 0.324084  | 0.000361      | 0.001480      |
| 1735  | 0.9D+1E         | Combination | Min      | -24.273692 | -5.640728  | -2.240793 | -0.000347     | -0.001463     |
| 1735  | 1.2D+1L+1E<br>y | Combination | Max      | 6.444309   | 15.266126  | 0.667769  | 0.000996      | 0.000393      |
| 1735  | 1.2D+1L+1E<br>y | Combination | Min      | -6.111508  | -15.593878 | -3.519493 | -0.000973     | -0.000363     |
| 1735  | 0.9D+1Ey        | Combination | Max      | 6.374188   | 15.334842  | 1.135276  | 0.000992      | 0.000387      |
| 1735  | 0.9D+1Ey        | Combination | Min      | -6.181630  | -15.525162 | -3.051985 | -0.000978     | -0.000369     |
| 1735  | 1D+0.5L         | Combination |          | 0.125991   | -0.124232  | -1.138866 | 8.798E-06     | 0.000011      |
| 1736  | 1.4D            | Combination |          | 0.173772   | -0.119687  | -1.522915 | -7.306E-06    | 0.000016      |
| 1736  | 1.2D+1.6L       | Combination |          | 0.213691   | -0.152680  | -1.553773 | 3.762E-06     | 0.000019      |
| 1736  | 1.2D+1L+1E      | Combination | Max      | 24.559617  | 5.304228   | 0.709203  | 0.000299      | 0.001452      |
| 1736  | 1.2D+1L+1E      | Combination | Min      | -24.180792 | -5.572019  | -3.630436 | -0.000299     | -0.001417     |
| 1736  | 0.9D+1E         | Combination | Max      | 24.481915  | 5.361182   | 1.190802  | 0.000294      | 0.001445      |
| 1736  | 0.9D+1E         | Combination | Min      | -24.258494 | -5.515065  | -3.148836 | -0.000303     | -0.001425     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1736  | 1.2D+1L+1E<br>y | Combination | Max      | 6.467816   | 15.304118  | 0.644283  | 0.000845      | 0.000387      |
| 1736  | 1.2D+1L+1E<br>y | Combination | Min      | -6.088992  | -15.571910 | -3.565517 | -0.000845     | -0.000353     |
| 1736  | 0.9D+1Ey        | Combination | Max      | 6.390114   | 15.361073  | 1.125883  | 0.000840      | 0.000380      |
| 1736  | 0.9D+1Ey        | Combination | Min      | -6.166694  | -15.514955 | -3.083917 | -0.000849     | -0.000360     |
| 1736  | 1D+0.5L         | Combination |          | 0.144355   | -0.101144  | -1.165427 | -2.086E-06    | 0.000013      |
| 1737  | 1.4D            | Combination |          | 0.157385   | -0.031206  | -1.412886 | 7.321E-06     | 7.911E-06     |
| 1737  | 1.2D+1.6L       | Combination |          | 0.187358   | -0.014529  | -1.433188 | 6.476E-06     | 8.650E-06     |
| 1737  | 1.2D+1L+1E      | Combination | Max      | 25.542323  | 10.375537  | 0.087338  | 0.000599      | 0.001477      |
| 1737  | 1.2D+1L+1E      | Combination | Min      | -25.206950 | -10.413760 | -2.787107 | -0.000586     | -0.001461     |
| 1737  | 0.9D+1E         | Combination | Max      | 25.475813  | 10.374588  | 0.528939  | 0.000597      | 0.001474      |
| 1737  | 0.9D+1E         | Combination | Min      | -25.273460 | -10.414710 | -2.345506 | -0.000588     | -0.001464     |
| 1737  | 1.2D+1L+1E<br>y | Combination | Max      | 6.723208   | 15.740456  | 0.955892  | 0.000953      | 0.000388      |
| 1737  | 1.2D+1L+1E<br>y | Combination | Min      | -6.387835  | -15.778679 | -3.655660 | -0.000940     | -0.000372     |
| 1737  | 0.9D+1Ey        | Combination | Max      | 6.656697   | 15.739506  | 1.397492  | 0.000951      | 0.000385      |
| 1737  | 0.9D+1Ey        | Combination | Min      | -6.454345  | -15.779629 | -3.214060 | -0.000942     | -0.000375     |
| 1737  | 1D+0.5L         | Combination |          | 0.128810   | -0.018472  | -1.078624 | 5.292E-06     | 6.235E-06     |
| 1738  | 1.4D            | Combination |          | 0.196776   | -0.075897  | -1.439811 | 7.711E-06     | 9.381E-06     |
| 1738  | 1.2D+1.6L       | Combination |          | 0.236161   | -0.059825  | -1.456751 | 7.752E-06     | 0.000012      |
| 1738  | 1.2D+1L+1E      | Combination | Max      | 24.517243  | 10.343221  | 0.689360  | 0.000625      | 0.001484      |
| 1738  | 1.2D+1L+1E      | Combination | Min      | -24.095542 | -10.466793 | -3.435892 | -0.000611     | -0.001462     |
| 1738  | 0.9D+1E         | Combination | Max      | 24.432891  | 10.356216  | 1.137033  | 0.000623      | 0.001479      |
| 1738  | 0.9D+1E         | Combination | Min      | -24.179893 | -10.453798 | -2.988219 | -0.000613     | -0.001467     |
| 1738  | 1.2D+1L+1E<br>y | Combination | Max      | 6.472853   | 15.705504  | 0.614619  | 0.000992      | 0.000390      |
| 1738  | 1.2D+1L+1E<br>y | Combination | Min      | -6.051153  | -15.829076 | -3.361150 | -0.000977     | -0.000368     |
| 1738  | 0.9D+1Ey        | Combination | Max      | 6.388502   | 15.718499  | 1.062291  | 0.000989      | 0.000385      |
| 1738  | 0.9D+1Ey        | Combination | Min      | -6.135504  | -15.816081 | -2.913477 | -0.000979     | -0.000373     |
| 1738  | 1D+0.5L         | Combination |          | 0.161647   | -0.052578  | -1.098008 | 5.865E-06     | 8.042E-06     |
| 1739  | 1.4D            | Combination |          | 0.291264   | -0.211742  | -1.556102 | 0.000025      | 0.000016      |
| 1739  | 1.2D+1.6L       | Combination |          | 0.379112   | -0.273080  | -1.596798 | 0.000036      | 0.000022      |
| 1739  | 1.2D+1L+1E      | Combination | Max      | 21.844264  | 6.940845   | 2.357737  | 0.000483      | 0.001310      |
| 1739  | 1.2D+1L+1E      | Combination | Min      | -21.183133 | -7.418315  | -5.354085 | -0.000421     | -0.001273     |
| 1739  | 0.9D+1E         | Combination | Max      | 21.700940  | 7.043460   | 2.855560  | 0.000468      | 0.001302      |
| 1739  | 0.9D+1E         | Combination | Min      | -21.326458 | -7.315700  | -4.856262 | -0.000436     | -0.001281     |
| 1739  | 1.2D+1L+1E<br>y | Combination | Max      | 5.881873   | 15.310735  | 0.337235  | 0.000971      | 0.000352      |
| 1739  | 1.2D+1L+1E<br>y | Combination | Min      | -5.220743  | -15.788205 | -3.333583 | -0.000910     | -0.000314     |
| 1739  | 0.9D+1Ey        | Combination | Max      | 5.738549   | 15.413350  | 0.835058  | 0.000956      | 0.000343      |
| 1739  | 0.9D+1Ey        | Combination | Min      | -5.364067  | -15.685590 | -2.835760 | -0.000924     | -0.000323     |
| 1739  | 1D+0.5L         | Combination |          | 0.248501   | -0.179865  | -1.193688 | 0.000023      | 0.000014      |
| 1740  | 1.4D            | Combination |          | 0.238344   | -0.201169  | -1.486309 | 0.000016      | 0.000020      |
| 1740  | 1.2D+1.6L       | Combination |          | 0.325124   | -0.271084  | -1.504131 | 0.000021      | 0.000026      |
| 1740  | 1.2D+1L+1E      | Combination | Max      | 21.780606  | 7.949347   | 0.024932  | 0.000534      | 0.001326      |
| 1740  | 1.2D+1L+1E      | Combination | Min      | -21.220980 | -8.417525  | -2.860580 | -0.000498     | -0.001281     |
| 1740  | 0.9D+1E         | Combination | Max      | 21.654014  | 8.054113   | 0.487272  | 0.000526      | 0.001316      |
| 1740  | 0.9D+1E         | Combination | Min      | -21.347572 | -8.312759  | -2.398241 | -0.000506     | -0.001290     |
| 1740  | 1.2D+1L+1E<br>y | Combination | Max      | 5.827218   | 15.364501  | 0.197253  | 0.001021      | 0.000358      |
| 1740  | 1.2D+1L+1E<br>y | Combination | Min      | -5.267592  | -15.832680 | -3.032902 | -0.000985     | -0.000313     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1740  | 0.9D+1Ey   | Combination | Max      | 5.700626   | 15.469268  | 0.659593  | 0.001013      | 0.000349      |
| 1740  | 0.9D+1Ey   | Combination | Min      | -5.394184  | -15.727913 | -2.570562 | -0.000993     | -0.000323     |
| 1740  | 1D+0.5L    | Combination |          | 0.208005   | -0.174521  | -1.133572 | 0.000014      | 0.000017      |
| 1741  | 1.4D       | Combination |          | 0.299443   | -0.254425  | -1.564967 | 0.000020      | -0.000040     |
| 1741  | 1.2D+1.6L  | Combination |          | 0.397862   | -0.325459  | -1.609343 | 0.000027      | -0.000051     |
| 1741  | 1.2D+1L+1E | Combination | Max      | 21.759970  | 7.904134   | 0.598152  | 0.000534      | 0.000938      |
| 1741  | 1.2D+1L+1E | Combination | Min      | -21.070143 | -8.474517  | -3.615882 | -0.000487     | -0.001028     |
| 1741  | 0.9D+1E    | Combination | Max      | 21.607555  | 8.025766   | 1.100967  | 0.000524      | 0.000957      |
| 1741  | 0.9D+1E    | Combination | Min      | -21.222557 | -8.352884  | -3.113068 | -0.000497     | -0.001009     |
| 1741  | 1.2D+1L+1E | Combination | Max      | 5.900444   | 15.319414  | 1.451010  | 0.001012      | 0.000219      |
|       | y          |             |          |            |            |           |               |               |
| 1741  | 1.2D+1L+1E | Combination | Min      | -5.210617  | -15.889797 | -4.468740 | -0.000965     | -0.000309     |
|       | y          |             |          |            |            |           |               |               |
| 1741  | 0.9D+1Ey   | Combination | Max      | 5.748029   | 15.441046  | 1.953824  | 0.001002      | 0.000238      |
| 1741  | 0.9D+1Ey   | Combination | Min      | -5.363031  | -15.768164 | -3.965925 | -0.000976     | -0.000289     |
| 1741  | 1D+0.5L    | Combination |          | 0.258012   | -0.215289  | -1.201566 | 0.000018      | -0.000034     |
| 1742  | 1.4D       | Combination |          | 0.282484   | -0.124378  | -1.396832 | -0.000027     | 0.000020      |
| 1742  | 1.2D+1.6L  | Combination |          | 0.370080   | -0.157243  | -1.427884 | -0.000037     | 0.000026      |
| 1742  | 1.2D+1L+1E | Combination | Max      | 21.891323  | 5.300277   | 0.797034  | 0.000265      | 0.001302      |
| 1742  | 1.2D+1L+1E | Combination | Min      | -21.247126 | -5.576789  | -3.479853 | -0.000328     | -0.001256     |
| 1742  | 0.9D+1E    | Combination | Max      | 21.750821  | 5.358576   | 1.240480  | 0.000279      | 0.001292      |
| 1742  | 0.9D+1E    | Combination | Min      | -21.387627 | -5.518491  | -3.036407 | -0.000314     | -0.001266     |
| 1742  | 1.2D+1L+1E | Combination | Max      | 5.887509   | 15.302091  | 0.889023  | 0.000808      | 0.000353      |
|       | y          |             |          |            |            |           |               |               |
| 1742  | 1.2D+1L+1E | Combination | Min      | -5.243313  | -15.578603 | -3.571842 | -0.000872     | -0.000307     |
|       | y          |             |          |            |            |           |               |               |
| 1742  | 0.9D+1Ey   | Combination | Max      | 5.747008   | 15.360389  | 1.332469  | 0.000823      | 0.000343      |
| 1742  | 0.9D+1Ey   | Combination | Min      | -5.383814  | -15.520304 | -3.128396 | -0.000858     | -0.000317     |
| 1742  | 1D+0.5L    | Combination |          | 0.241759   | -0.104664  | -1.069800 | -0.000024     | 0.000017      |
| 1743  | 1.4D       | Combination |          | 0.258338   | -0.116697  | -1.356308 | 0.000011      | 0.000019      |
| 1743  | 1.2D+1.6L  | Combination |          | 0.345468   | -0.154195  | -1.374126 | 0.000014      | 0.000025      |
| 1743  | 1.2D+1L+1E | Combination | Max      | 21.865738  | 5.408955   | -0.209375 | 0.000365      | 0.001330      |
| 1743  | 1.2D+1L+1E | Combination | Min      | -21.267829 | -5.676718  | -2.380195 | -0.000340     | -0.001287     |
| 1743  | 0.9D+1E    | Combination | Max      | 21.732858  | 5.467817   | 0.213497  | 0.000359      | 0.001320      |
| 1743  | 0.9D+1E    | Combination | Min      | -21.400709 | -5.617855  | -1.957322 | -0.000346     | -0.001296     |
| 1743  | 1.2D+1L+1E | Combination | Max      | 5.863279   | 15.319377  | 0.907502  | 0.000994      | 0.000358      |
|       | y          |             |          |            |            |           |               |               |
| 1743  | 1.2D+1L+1E | Combination | Min      | -5.265370  | -15.587140 | -3.497072 | -0.000970     | -0.000316     |
|       | y          |             |          |            |            |           |               |               |
| 1743  | 0.9D+1Ey   | Combination | Max      | 5.730399   | 15.378239  | 1.330374  | 0.000989      | 0.000349      |
| 1743  | 0.9D+1Ey   | Combination | Min      | -5.398250  | -15.528278 | -3.074199 | -0.000975     | -0.000325     |
| 1743  | 1D+0.5L    | Combination |          | 0.223288   | -0.100283  | -1.034909 | 9.146E-06     | 0.000016      |
| 1744  | 1.4D       | Combination |          | 0.294035   | -0.165408  | -1.402347 | 9.957E-06     | 0.000021      |
| 1744  | 1.2D+1.6L  | Combination |          | 0.392276   | -0.203943  | -1.434133 | 0.000013      | 0.000027      |
| 1744  | 1.2D+1L+1E | Combination | Max      | 21.759653  | 5.362798   | -0.230019 | 0.000363      | 0.001308      |
| 1744  | 1.2D+1L+1E | Combination | Min      | -21.080285 | -5.724061  | -2.464157 | -0.000340     | -0.001260     |
| 1744  | 0.9D+1E    | Combination | Max      | 21.608992  | 5.437095   | 0.215560  | 0.000358      | 0.001297      |
| 1744  | 0.9D+1E    | Combination | Min      | -21.230947 | -5.649763  | -2.018578 | -0.000345     | -0.001271     |
| 1744  | 1.2D+1L+1E | Combination | Max      | 5.896695   | 15.273728  | 0.865576  | 0.000991      | 0.000356      |
|       | y          |             |          |            |            |           |               |               |
| 1744  | 1.2D+1L+1E | Combination | Min      | -5.217327  | -15.634991 | -3.559752 | -0.000968     | -0.000309     |
|       | y          |             |          |            |            |           |               |               |
| 1744  | 0.9D+1Ey   | Combination | Max      | 5.746034   | 15.348025  | 1.311155  | 0.000986      | 0.000346      |
| 1744  | 0.9D+1Ey   | Combination | Min      | -5.367989  | -15.560693 | -3.114173 | -0.000973     | -0.000319     |
| 1744  | 1D+0.5L    | Combination |          | 0.253852   | -0.137575  | -1.074215 | 8.521E-06     | 0.000018      |
| 1745  | 1.4D       | Combination |          | 0.316299   | -0.128609  | -1.445894 | 0.000013      | 0.000021      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1745  | 1.2D+1.6L       | Combination |          | 0.415208   | -0.161485  | -1.492509 | 0.000017      | 0.000029      |
| 1745  | 1.2D+1L+1E      | Combination | Max      | 21.781357  | 5.297126   | 0.675895  | 0.000350      | 0.001287      |
| 1745  | 1.2D+1L+1E      | Combination | Min      | -21.059011 | -5.581659  | -3.471034 | -0.000320     | -0.001238     |
| 1745  | 0.9D+1E         | Combination | Max      | 21.623519  | 5.356716   | 1.143961  | 0.000344      | 0.001276      |
| 1745  | 0.9D+1E         | Combination | Min      | -21.216849 | -5.522070  | -3.002967 | -0.000327     | -0.001249     |
| 1745  | 1.2D+1L+1E<br>y | Combination | Max      | 5.917521   | 15.300519  | 0.845310  | 0.000961      | 0.000352      |
| 1745  | 1.2D+1L+1E<br>y | Combination | Min      | -5.195176  | -15.585052 | -3.640450 | -0.000932     | -0.000302     |
| 1745  | 0.9D+1Ey        | Combination | Max      | 5.759684   | 15.360108  | 1.313377  | 0.000955      | 0.000340      |
| 1745  | 0.9D+1Ey        | Combination | Min      | -5.353013  | -15.525463 | -3.172383 | -0.000938     | -0.000313     |
| 1745  | 1D+0.5L         | Combination |          | 0.270958   | -0.107879  | -1.111897 | 0.000011      | 0.000018      |
| 1746  | 1.4D            | Combination |          | 0.272919   | -0.004619  | -1.200816 | 0.000016      | 0.000020      |
| 1746  | 1.2D+1.6L       | Combination |          | 0.361062   | 0.009736   | -1.124968 | 0.000024      | 0.000026      |
| 1746  | 1.2D+1L+1E      | Combination | Max      | 21.787950  | 8.635389   | 2.683823  | 0.000546      | 0.001312      |
| 1746  | 1.2D+1L+1E      | Combination | Min      | -21.161174 | -8.626189  | -4.861986 | -0.000506     | -0.001267     |
| 1746  | 0.9D+1E         | Combination | Max      | 21.650011  | 8.627819   | 3.000951  | 0.000536      | 0.001302      |
| 1746  | 0.9D+1E         | Combination | Min      | -21.299114 | -8.633758  | -4.544857 | -0.000516     | -0.001276     |
| 1746  | 1.2D+1L+1E<br>y | Combination | Max      | 5.855247   | 15.370600  | 0.588085  | 0.000942      | 0.000355      |
| 1746  | 1.2D+1L+1E<br>y | Combination | Min      | -5.228471  | -15.361401 | -2.766247 | -0.000902     | -0.000309     |
| 1746  | 0.9D+1Ey        | Combination | Max      | 5.717307   | 15.363031  | 0.905213  | 0.000932      | 0.000345      |
| 1746  | 0.9D+1Ey        | Combination | Min      | -5.366410  | -15.368970 | -2.449119 | -0.000911     | -0.000319     |
| 1746  | 1D+0.5L         | Combination |          | 0.234671   | 0.000980   | -0.887631 | 0.000015      | 0.000017      |
| 1747  | 1.4D            | Combination |          | 0.316386   | 0.030656   | -1.269263 | 2.288E-06     | 0.000015      |
| 1747  | 1.2D+1.6L       | Combination |          | 0.402279   | 0.054255   | -1.215948 | 8.765E-07     | 0.000021      |
| 1747  | 1.2D+1L+1E      | Combination | Max      | 21.814387  | 9.764102   | 0.380005  | 0.000608      | 0.001326      |
| 1747  | 1.2D+1L+1E      | Combination | Min      | -21.108148 | -9.676576  | -2.715895 | -0.000605     | -0.001290     |
| 1747  | 0.9D+1E         | Combination | Max      | 21.664658  | 9.740047   | 0.731995  | 0.000608      | 0.001317      |
| 1747  | 0.9D+1E         | Combination | Min      | -21.257877 | -9.700632  | -2.363905 | -0.000605     | -0.001298     |
| 1747  | 1.2D+1L+1E<br>y | Combination | Max      | 5.892557   | 15.356711  | 0.286342  | 0.000990      | 0.000355      |
| 1747  | 1.2D+1L+1E<br>y | Combination | Min      | -5.186318  | -15.269185 | -2.622232 | -0.000988     | -0.000319     |
| 1747  | 0.9D+1Ey        | Combination | Max      | 5.742829   | 15.332655  | 0.638332  | 0.000990      | 0.000346      |
| 1747  | 0.9D+1Ey        | Combination | Min      | -5.336047  | -15.293240 | -2.270242 | -0.000987     | -0.000327     |
| 1747  | 1D+0.5L         | Combination |          | 0.266956   | 0.030640   | -0.946619 | 1.295E-06     | 0.000013      |
| 1748  | 1.4D            | Combination |          | 0.294018   | -0.020779  | -1.278834 | 2.629E-06     | 6.799E-06     |
| 1748  | 1.2D+1.6L       | Combination |          | 0.393587   | 0.004845   | -1.220824 | 1.757E-06     | 7.956E-06     |
| 1748  | 1.2D+1L+1E      | Combination | Max      | 21.774753  | 9.726562   | 1.314723  | 0.000609      | 0.001197      |
| 1748  | 1.2D+1L+1E      | Combination | Min      | -21.093758 | -9.733864  | -3.662860 | -0.000605     | -0.001183     |
| 1748  | 0.9D+1E         | Combination | Max      | 21.623267  | 9.716855   | 1.666684  | 0.000609      | 0.001194      |
| 1748  | 0.9D+1E         | Combination | Min      | -21.245244 | -9.743571  | -3.310899 | -0.000606     | -0.001186     |
| 1748  | 1.2D+1L+1E<br>y | Combination | Max      | 5.900920   | 15.322409  | 1.895613  | 0.000988      | 0.000327      |
| 1748  | 1.2D+1L+1E<br>y | Combination | Min      | -5.219925  | -15.329710 | -4.243750 | -0.000985     | -0.000313     |
| 1748  | 0.9D+1Ey        | Combination | Max      | 5.749434   | 15.312702  | 2.247574  | 0.000988      | 0.000325      |
| 1748  | 0.9D+1Ey        | Combination | Min      | -5.371411  | -15.339418 | -3.891789 | -0.000985     | -0.000316     |
| 1748  | 1D+0.5L         | Combination |          | 0.254254   | -0.007762  | -0.952415 | 1.723E-06     | 5.521E-06     |
| 1749  | 1.4D            | Combination |          | 0.184290   | -0.195497  | -1.281787 | 0.000017      | 0.000028      |
| 1749  | 1.2D+1.6L       | Combination |          | 0.222065   | -0.290826  | -1.214050 | 0.000022      | 0.000037      |
| 1749  | 1.2D+1L+1E      | Combination | Max      | 30.338532  | 11.285587  | 0.521029  | 0.000617      | 0.001581      |
| 1749  | 1.2D+1L+1E      | Combination | Min      | -29.942479 | -11.774797 | -2.862599 | -0.000579     | -0.001516     |
| 1749  | 0.9D+1E         | Combination | Max      | 30.258978  | 11.404515  | 0.867808  | 0.000609      | 0.001566      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1749  | 0.9D+1E    | Combination | Min      | -30.022033 | -11.655869 | -2.515820 | -0.000587     | -0.001531     |
| 1749  | 1.2D+1L+1E | Combination | Max      | 7.980148   | 18.347648  | 1.531105  | 0.001039      | 0.000431      |
|       | y          |             |          |            |            |           |               |               |
| 1749  | 1.2D+1L+1E | Combination | Min      | -7.584095  | -18.836857 | -3.872674 | -0.001000     | -0.000367     |
|       | y          |             |          |            |            |           |               |               |
| 1749  | 0.9D+1Ey   | Combination | Max      | 7.900593   | 18.466576  | 1.877883  | 0.001030      | 0.000417      |
| 1749  | 0.9D+1Ey   | Combination | Min      | -7.663649  | -18.717929 | -3.525895 | -0.001009     | -0.000381     |
| 1749  | 1D+0.5L    | Combination |          | 0.151668   | -0.178159  | -0.951617 | 0.000014      | 0.000024      |
| 1750  | 1.4D       | Combination |          | 0.175734   | -0.238127  | -1.352772 | 0.000017      | 0.000012      |
| 1750  | 1.2D+1.6L  | Combination |          | 0.225853   | -0.331770  | -1.310511 | 0.000024      | 0.000016      |
| 1750  | 1.2D+1L+1E | Combination | Max      | 29.102560  | 11.255412  | 0.967583  | 0.000634      | 0.001525      |
| 1750  | 1.2D+1L+1E | Combination | Min      | -28.707272 | -11.823206 | -3.475361 | -0.000594     | -0.001497     |
| 1750  | 0.9D+1E    | Combination | Max      | 29.017888  | 11.386227  | 1.351832  | 0.000625      | 0.001519      |
| 1750  | 0.9D+1E    | Combination | Min      | -28.791944 | -11.692390 | -3.091111 | -0.000603     | -0.001503     |
| 1750  | 1.2D+1L+1E | Combination | Max      | 7.642198   | 18.310727  | 0.633374  | 0.001067      | 0.000403      |
|       | y          |             |          |            |            |           |               |               |
| 1750  | 1.2D+1L+1E | Combination | Min      | -7.246910  | -18.878521 | -3.141153 | -0.001026     | -0.000375     |
|       | y          |             |          |            |            |           |               |               |
| 1750  | 0.9D+1Ey   | Combination | Max      | 7.557526   | 18.441542  | 1.017624  | 0.001058      | 0.000397      |
| 1750  | 0.9D+1Ey   | Combination | Min      | -7.331582  | -18.747706 | -2.756903 | -0.001036     | -0.000381     |
| 1750  | 1D+0.5L    | Combination |          | 0.149032   | -0.209985  | -1.013451 | 0.000015      | 0.000011      |
| 1751  | 1.4D       | Combination |          | 0.217360   | -0.195690  | -1.410561 | -3.993E-06    | 0.000018      |
| 1751  | 1.2D+1.6L  | Combination |          | 0.266497   | -0.279950  | -1.381809 | -7.386E-06    | 0.000021      |
| 1751  | 1.2D+1L+1E | Combination | Max      | 29.141800  | 9.849546   | 2.566828  | 0.000523      | 0.001519      |
| 1751  | 1.2D+1L+1E | Combination | Min      | -28.668948 | -10.325285 | -5.200879 | -0.000535     | -0.001481     |
| 1751  | 0.9D+1E    | Combination | Max      | 29.045105  | 9.961614   | 2.977064  | 0.000526      | 0.001512      |
| 1751  | 0.9D+1E    | Combination | Min      | -28.765643 | -10.213216 | -4.790642 | -0.000531     | -0.001489     |
| 1751  | 1.2D+1L+1E | Combination | Max      | 7.681779   | 18.333043  | 0.676693  | 0.001040      | 0.000405      |
|       | y          |             |          |            |            |           |               |               |
| 1751  | 1.2D+1L+1E | Combination | Min      | -7.208926  | -18.808782 | -3.310744 | -0.001052     | -0.000367     |
|       | y          |             |          |            |            |           |               |               |
| 1751  | 0.9D+1Ey   | Combination | Max      | 7.585084   | 18.445111  | 1.086929  | 0.001043      | 0.000397      |
| 1751  | 0.9D+1Ey   | Combination | Min      | -7.305622  | -18.696713 | -2.900508 | -0.001048     | -0.000375     |
| 1751  | 1D+0.5L    | Combination |          | 0.180316   | -0.174846  | -1.061530 | -4.091E-06    | 0.000014      |
| 1752  | 1.4D       | Combination |          | 0.177230   | -0.134452  | -1.590190 | 0.000012      | 0.000012      |
| 1752  | 1.2D+1.6L  | Combination |          | 0.214790   | -0.181504  | -1.602631 | 0.000015      | 0.000015      |
| 1752  | 1.2D+1L+1E | Combination | Max      | 30.336951  | 6.510623   | -0.298885 | 0.000384      | 0.001584      |
| 1752  | 1.2D+1L+1E | Combination | Min      | -29.954530 | -6.823937  | -2.726669 | -0.000357     | -0.001558     |
| 1752  | 0.9D+1E    | Combination | Max      | 30.259675  | 6.580847   | 0.191627  | 0.000378      | 0.001579      |
| 1752  | 0.9D+1E    | Combination | Min      | -30.031807 | -6.753714  | -2.236157 | -0.000363     | -0.001563     |
| 1752  | 1.2D+1L+1E | Combination | Max      | 7.974489   | 18.397403  | 0.734689  | 0.001043      | 0.000418      |
|       | y          |             |          |            |            |           |               |               |
| 1752  | 1.2D+1L+1E | Combination | Min      | -7.592068  | -18.710717 | -3.760242 | -0.001016     | -0.000392     |
|       | y          |             |          |            |            |           |               |               |
| 1752  | 0.9D+1Ey   | Combination | Max      | 7.897212   | 18.467627  | 1.225201  | 0.001037      | 0.000413      |
| 1752  | 0.9D+1Ey   | Combination | Min      | -7.669344  | -18.640494 | -3.269730 | -0.001022     | -0.000397     |
| 1752  | 1D+0.5L    | Combination |          | 0.146243   | -0.116743  | -1.210728 | 0.000010      | 0.000010      |
| 1753  | 1.4D       | Combination |          | 0.200222   | -0.145922  | -1.618967 | -2.036E-06    | 0.000014      |
| 1753  | 1.2D+1.6L  | Combination |          | 0.238010   | -0.187440  | -1.637352 | -9.903E-06    | 0.000017      |
| 1753  | 1.2D+1L+1E | Combination | Max      | 30.357676  | 6.374338   | 0.973473  | 0.000300      | 0.001573      |
| 1753  | 1.2D+1L+1E | Combination | Min      | -29.931449 | -6.702446  | -4.060927 | -0.000314     | -0.001542     |
| 1753  | 0.9D+1E    | Combination | Max      | 30.273277  | 6.444585   | 1.476436  | 0.000306      | 0.001566      |
| 1753  | 0.9D+1E    | Combination | Min      | -30.015848 | -6.632199  | -3.557964 | -0.000309     | -0.001548     |
| 1753  | 1.2D+1L+1E | Combination | Max      | 7.995358   | 18.395895  | 0.781234  | 0.000849      | 0.000416      |
|       | y          |             |          |            |            |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1753  | 1.2D+1L+1E<br>y | Combination | Min      | -7.569132  | -18.724002 | -3.868688 | -0.000862     | -0.000386     |
| 1753  | 0.9D+1Ey        | Combination | Max      | 7.910959   | 18.466141  | 1.284197  | 0.000854      | 0.000410      |
| 1753  | 0.9D+1Ey        | Combination | Min      | -7.653531  | -18.653755 | -3.365725 | -0.000857     | -0.000392     |
| 1753  | 1D+0.5L         | Combination |          | 0.163763   | -0.123719  | -1.234425 | -4.004E-06    | 0.000012      |
| 1754  | 1.4D            | Combination |          | 0.192913   | -0.180244  | -1.644111 | 0.000011      | 0.000015      |
| 1754  | 1.2D+1.6L       | Combination |          | 0.242141   | -0.227935  | -1.670869 | 0.000014      | 0.000018      |
| 1754  | 1.2D+1L+1E      | Combination | Max      | 29.178585  | 6.468029   | -0.229308 | 0.000384      | 0.001526      |
| 1754  | 1.2D+1L+1E      | Combination | Min      | -28.751893 | -6.868819  | -2.916207 | -0.000359     | -0.001494     |
| 1754  | 0.9D+1E         | Combination | Max      | 29.089255  | 6.552553   | 0.286521  | 0.000378      | 0.001519      |
| 1754  | 0.9D+1E         | Combination | Min      | -28.841224 | -6.784295  | -2.400378 | -0.000364     | -0.001501     |
| 1754  | 1.2D+1L+1E<br>y | Combination | Max      | 7.671553   | 18.354383  | 0.626611  | 0.001046      | 0.000404      |
| 1754  | 1.2D+1L+1E<br>y | Combination | Min      | -7.244861  | -18.755173 | -3.772126 | -0.001020     | -0.000372     |
| 1754  | 0.9D+1Ey        | Combination | Max      | 7.582222   | 18.438907  | 1.142440  | 0.001040      | 0.000397      |
| 1754  | 0.9D+1Ey        | Combination | Min      | -7.334191  | -18.670649 | -3.256297 | -0.001026     | -0.000379     |
| 1754  | 1D+0.5L         | Combination |          | 0.161791   | -0.151696  | -1.256125 | 9.494E-06     | 0.000012      |
| 1755  | 1.4D            | Combination |          | 0.215670   | -0.150552  | -1.678258 | 4.242E-06     | 0.000017      |
| 1755  | 1.2D+1.6L       | Combination |          | 0.265360   | -0.192135  | -1.712582 | 0.000016      | 0.000021      |
| 1755  | 1.2D+1L+1E      | Combination | Max      | 29.199175  | 6.369761   | 0.604708  | 0.000324      | 0.001492      |
| 1755  | 1.2D+1L+1E      | Combination | Min      | -28.728830 | -6.706713  | -3.824315 | -0.000301     | -0.001455     |
| 1755  | 0.9D+1E         | Combination | Max      | 29.102647  | 6.441453   | 1.135632  | 0.000315      | 0.001484      |
| 1755  | 0.9D+1E         | Combination | Min      | -28.825357 | -6.635020  | -3.293392 | -0.000309     | -0.001462     |
| 1755  | 1.2D+1L+1E<br>y | Combination | Max      | 7.693477   | 18.390979  | 0.596837  | 0.000895      | 0.000398      |
| 1755  | 1.2D+1L+1E<br>y | Combination | Min      | -7.223133  | -18.727931 | -3.816444 | -0.000872     | -0.000361     |
| 1755  | 0.9D+1Ey        | Combination | Max      | 7.596950   | 18.462671  | 1.127761  | 0.000886      | 0.000390      |
| 1755  | 0.9D+1Ey        | Combination | Min      | -7.319660  | -18.656238 | -3.285521 | -0.000881     | -0.000369     |
| 1755  | 1D+0.5L         | Combination |          | 0.179206   | -0.127253  | -1.284404 | 6.892E-06     | 0.000014      |
| 1756  | 1.4D            | Combination |          | 0.195661   | -0.052116  | -1.555878 | 8.759E-06     | 9.117E-06     |
| 1756  | 1.2D+1.6L       | Combination |          | 0.233367   | -0.033838  | -1.577799 | 8.060E-06     | 0.000010      |
| 1756  | 1.2D+1L+1E      | Combination | Max      | 30.351568  | 12.267528  | -0.012734 | 0.000617      | 0.001517      |
| 1756  | 1.2D+1L+1E      | Combination | Min      | -29.934078 | -12.343329 | -2.959722 | -0.000601     | -0.001498     |
| 1756  | 0.9D+1E         | Combination | Max      | 30.268605  | 12.271925  | 0.473286  | 0.000614      | 0.001513      |
| 1756  | 0.9D+1E         | Combination | Min      | -30.017041 | -12.338932 | -2.473702 | -0.000603     | -0.001502     |
| 1756  | 1.2D+1L+1E<br>y | Combination | Max      | 7.990739   | 18.843496  | 0.874660  | 0.000997      | 0.000399      |
| 1756  | 1.2D+1L+1E<br>y | Combination | Min      | -7.573249  | -18.919297 | -3.847117 | -0.000981     | -0.000380     |
| 1756  | 0.9D+1Ey        | Combination | Max      | 7.907776   | 18.847893  | 1.360681  | 0.000995      | 0.000395      |
| 1756  | 0.9D+1Ey        | Combination | Min      | -7.656212  | -18.914900 | -3.361096 | -0.000983     | -0.000384     |
| 1756  | 1D+0.5L         | Combination |          | 0.160276   | -0.033841  | -1.187651 | 6.429E-06     | 7.217E-06     |
| 1757  | 1.4D            | Combination |          | 0.235231   | -0.094679  | -1.589138 | 9.066E-06     | 0.000017      |
| 1757  | 1.2D+1.6L       | Combination |          | 0.284257   | -0.076987  | -1.608385 | 9.293E-06     | 0.000020      |
| 1757  | 1.2D+1L+1E      | Combination | Max      | 29.161799  | 12.236114  | 0.623325  | 0.000642      | 0.001524      |
| 1757  | 1.2D+1L+1E      | Combination | Min      | -28.655258 | -12.393213 | -3.655394 | -0.000625     | -0.001488     |
| 1757  | 0.9D+1E         | Combination | Max      | 29.059748  | 12.253798  | 1.117771  | 0.000639      | 0.001517      |
| 1757  | 0.9D+1E         | Combination | Min      | -28.757309 | -12.375529 | -3.160948 | -0.000628     | -0.001495     |
| 1757  | 1.2D+1L+1E<br>y | Combination | Max      | 7.697089   | 18.812494  | 0.602772  | 0.001036      | 0.000405      |
| 1757  | 1.2D+1L+1E<br>y | Combination | Min      | -7.190549  | -18.969594 | -3.634842 | -0.001019     | -0.000369     |
| 1757  | 0.9D+1Ey        | Combination | Max      | 7.595039   | 18.830179  | 1.097218  | 0.001033      | 0.000398      |
| 1757  | 0.9D+1Ey        | Combination | Min      | -7.292599  | -18.951909 | -3.140396 | -0.001021     | -0.000376     |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1757  | 1D+0.5L    | Combination |          | 0.193844   | -0.066326  | -1.212057 | 6.952E-06     | 0.000014      |
| 1758  | 1.4D       | Combination |          | 0.347644   | -0.256323  | -1.713656 | 0.000026      | 0.000023      |
| 1758  | 1.2D+1.6L  | Combination |          | 0.454794   | -0.332454  | -1.758303 | 0.000037      | 0.000030      |
| 1758  | 1.2D+1L+1E | Combination | Max      | 25.982956  | 8.329251   | 2.322581  | 0.000503      | 0.001362      |
| 1758  | 1.2D+1L+1E | Combination | Min      | -25.190978 | -8.909598  | -5.622095 | -0.000440     | -0.001310     |
| 1758  | 0.9D+1E    | Combination | Max      | 25.810452  | 8.454645   | 2.870702  | 0.000488      | 0.001350      |
| 1758  | 0.9D+1E    | Combination | Min      | -25.363482 | -8.784204  | -5.073974 | -0.000455     | -0.001321     |
| 1758  | 1.2D+1L+1E | Combination | Max      | 6.995475   | 18.416123  | 0.287308  | 0.001017      | 0.000370      |
|       | y          |             |          |            |            |           |               |               |
| 1758  | 1.2D+1L+1E | Combination | Min      | -6.203496  | -18.996469 | -3.586822 | -0.000953     | -0.000318     |
|       | y          |             |          |            |            |           |               |               |
| 1758  | 0.9D+1Ey   | Combination | Max      | 6.822971   | 18.541517  | 0.835429  | 0.001002      | 0.000359      |
| 1758  | 0.9D+1Ey   | Combination | Min      | -6.376000  | -18.871075 | -3.038701 | -0.000968     | -0.000329     |
| 1758  | 1D+0.5L    | Combination |          | 0.297321   | -0.218322  | -1.314495 | 0.000023      | 0.000020      |
| 1759  | 1.4D       | Combination |          | 0.297928   | -0.251937  | -1.640477 | 0.000017      | 0.000015      |
| 1759  | 1.2D+1.6L  | Combination |          | 0.404071   | -0.338692  | -1.660629 | 0.000023      | 0.000021      |
| 1759  | 1.2D+1L+1E | Combination | Max      | 25.929525  | 9.524758   | -0.067374 | 0.000559      | 0.001350      |
| 1759  | 1.2D+1L+1E | Combination | Min      | -25.232910 | -10.110083 | -3.063005 | -0.000519     | -0.001314     |
| 1759  | 0.9D+1E    | Combination | Max      | 25.772743  | 9.655461   | 0.443223  | 0.000550      | 0.001341      |
| 1759  | 0.9D+1E    | Combination | Min      | -25.389692 | -9.979380  | -2.552408 | -0.000528     | -0.001322     |
| 1759  | 1.2D+1L+1E | Combination | Max      | 6.945689   | 18.479984  | 0.150466  | 0.001073      | 0.000361      |
|       | y          |             |          |            |            |           |               |               |
| 1759  | 1.2D+1L+1E | Combination | Min      | -6.249075  | -19.065309 | -3.280845 | -0.001033     | -0.000325     |
|       | y          |             |          |            |            |           |               |               |
| 1759  | 0.9D+1Ey   | Combination | Max      | 6.788907   | 18.610687  | 0.661063  | 0.001064      | 0.000352      |
| 1759  | 0.9D+1Ey   | Combination | Min      | -6.405856  | -18.934606 | -2.770248 | -0.001042     | -0.000333     |
| 1759  | 1D+0.5L    | Combination |          | 0.259276   | -0.218313  | -1.251303 | 0.000015      | 0.000013      |
| 1760  | 1.4D       | Combination |          | 0.362618   | -0.302654  | -1.723608 | 0.000022      | -0.000040     |
| 1760  | 1.2D+1.6L  | Combination |          | 0.482762   | -0.390484  | -1.772261 | 0.000029      | -0.000050     |
| 1760  | 1.2D+1L+1E | Combination | Max      | 25.855714  | 9.479564   | 0.536865  | 0.000558      | 0.000968      |
| 1760  | 1.2D+1L+1E | Combination | Min      | -25.019150 | -10.162232 | -3.860225 | -0.000508     | -0.001056     |
| 1760  | 0.9D+1E    | Combination | Max      | 25.670543  | 9.626335   | 1.090511  | 0.000547      | 0.000986      |
| 1760  | 0.9D+1E    | Combination | Min      | -25.204320 | -10.015461 | -3.306579 | -0.000519     | -0.001038     |
| 1760  | 1.2D+1L+1E | Combination | Max      | 7.012394   | 18.433730  | 1.420991  | 0.001063      | 0.000227      |
|       | y          |             |          |            |            |           |               |               |
| 1760  | 1.2D+1L+1E | Combination | Min      | -6.175830  | -19.116398 | -4.744351 | -0.001012     | -0.000315     |
|       | y          |             |          |            |            |           |               |               |
| 1760  | 0.9D+1Ey   | Combination | Max      | 6.827223   | 18.580501  | 1.974637  | 0.001052      | 0.000245      |
| 1760  | 0.9D+1Ey   | Combination | Min      | -6.361000  | -18.969627 | -4.190705 | -0.001024     | -0.000296     |
| 1760  | 1D+0.5L    | Combination |          | 0.312746   | -0.257140  | -1.323300 | 0.000019      | -0.000034     |
| 1761  | 1.4D       | Combination |          | 0.339454   | -0.155485  | -1.538116 | -0.000026     | 0.000021      |
| 1761  | 1.2D+1.6L  | Combination |          | 0.446344   | -0.196969  | -1.572270 | -0.000036     | 0.000027      |
| 1761  | 1.2D+1L+1E | Combination | Max      | 26.027712  | 6.366401   | 0.720392  | 0.000279      | 0.001338      |
| 1761  | 1.2D+1L+1E | Combination | Min      | -25.251561 | -6.712567  | -3.674518 | -0.000341     | -0.001290     |
| 1761  | 0.9D+1E    | Combination | Max      | 25.857857  | 6.439529   | 1.208666  | 0.000293      | 0.001327      |
| 1761  | 0.9D+1E    | Combination | Min      | -25.421417 | -6.639439  | -3.186244 | -0.000327     | -0.001301     |
| 1761  | 1.2D+1L+1E | Combination | Max      | 7.000920   | 18.391551  | 0.862404  | 0.000848      | 0.000362      |
|       | y          |             |          |            |            |           |               |               |
| 1761  | 1.2D+1L+1E | Combination | Min      | -6.224769  | -18.737717 | -3.816531 | -0.000909     | -0.000315     |
|       | y          |             |          |            |            |           |               |               |
| 1761  | 0.9D+1Ey   | Combination | Max      | 6.831065   | 18.464679  | 1.350678  | 0.000862      | 0.000352      |
| 1761  | 0.9D+1Ey   | Combination | Min      | -6.394624  | -18.664589 | -3.328256 | -0.000895     | -0.000325     |
| 1761  | 1D+0.5L    | Combination |          | 0.291024   | -0.130966  | -1.177993 | -0.000023     | 0.000018      |
| 1762  | 1.4D       | Combination |          | 0.316526   | -0.151306  | -1.496493 | 0.000012      | 0.000019      |
| 1762  | 1.2D+1.6L  | Combination |          | 0.422971   | -0.198538  | -1.516619 | 0.000016      | 0.000025      |
| 1762  | 1.2D+1L+1E | Combination | Max      | 26.004837  | 6.493468   | -0.296573 | 0.000384      | 0.001365      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1762  | 1.2D+1L+1E      | Combination | Min      | -25.272643 | -6.838908  | -2.561232 | -0.000356     | -0.001321     |
| 1762  | 0.9D+1E         | Combination | Max      | 25.842221  | 6.568920   | 0.170298  | 0.000378      | 0.001355      |
| 1762  | 0.9D+1E         | Combination | Min      | -25.435259 | -6.763456  | -2.094361 | -0.000362     | -0.001331     |
| 1762  | 1.2D+1L+1E<br>y | Combination | Max      | 6.978263   | 18.407793  | 0.881752  | 0.001044      | 0.000368      |
| 1762  | 1.2D+1L+1E<br>y | Combination | Min      | -6.246068  | -18.753233 | -3.739557 | -0.001017     | -0.000324     |
| 1762  | 0.9D+1Ey        | Combination | Max      | 6.815646   | 18.483245  | 1.348623  | 0.001038      | 0.000358      |
| 1762  | 0.9D+1Ey        | Combination | Min      | -6.408684  | -18.677781 | -3.272686 | -0.001022     | -0.000334     |
| 1762  | 1D+0.5L         | Combination |          | 0.273485   | -0.129591  | -1.142021 | 0.000010      | 0.000016      |
| 1763  | 1.4D            | Combination |          | 0.357416   | -0.197841  | -1.548980 | 0.000012      | 0.000022      |
| 1763  | 1.2D+1.6L       | Combination |          | 0.477386   | -0.246102  | -1.584775 | 0.000015      | 0.000028      |
| 1763  | 1.2D+1L+1E      | Combination | Max      | 25.853854  | 6.449351   | -0.318920 | 0.000382      | 0.001342      |
| 1763  | 1.2D+1L+1E      | Combination | Min      | -25.027354 | -6.884162  | -2.657821 | -0.000356     | -0.001292     |
| 1763  | 0.9D+1E         | Combination | Max      | 25.670372  | 6.539573   | 0.173677  | 0.000377      | 0.001331      |
| 1763  | 0.9D+1E         | Combination | Min      | -25.210837 | -6.793940  | -2.165224 | -0.000362     | -0.001303     |
| 1763  | 1.2D+1L+1E<br>y | Combination | Max      | 7.008404   | 18.364350  | 0.836458  | 0.001041      | 0.000365      |
| 1763  | 1.2D+1L+1E<br>y | Combination | Min      | -6.181904  | -18.799161 | -3.813200 | -0.001015     | -0.000316     |
| 1763  | 0.9D+1Ey        | Combination | Max      | 6.824922   | 18.454571  | 1.329056  | 0.001035      | 0.000355      |
| 1763  | 0.9D+1Ey        | Combination | Min      | -6.365387  | -18.708939 | -3.320602 | -0.001020     | -0.000327     |
| 1763  | 1D+0.5L         | Combination |          | 0.308744   | -0.165229  | -1.186751 | 9.863E-06     | 0.000019      |
| 1764  | 1.4D            | Combination |          | 0.378756   | -0.159472  | -1.593977 | 0.000015      | 0.000022      |
| 1764  | 1.2D+1.6L       | Combination |          | 0.499391   | -0.200959  | -1.645514 | 0.000018      | 0.000030      |
| 1764  | 1.2D+1L+1E      | Combination | Max      | 25.873537  | 6.363446   | 0.582964  | 0.000366      | 0.001321      |
| 1764  | 1.2D+1L+1E      | Combination | Min      | -25.005812 | -6.717162  | -3.664556 | -0.000334     | -0.001270     |
| 1764  | 0.9D+1E         | Combination | Max      | 25.683160  | 6.437786   | 1.099061  | 0.000360      | 0.001309      |
| 1764  | 0.9D+1E         | Combination | Min      | -25.196189 | -6.642821  | -3.148459 | -0.000341     | -0.001281     |
| 1764  | 1.2D+1L+1E<br>y | Combination | Max      | 7.028052   | 18.390208  | 0.817244  | 0.001006      | 0.000360      |
| 1764  | 1.2D+1L+1E<br>y | Combination | Min      | -6.160327  | -18.743924 | -3.898836 | -0.000973     | -0.000310     |
| 1764  | 0.9D+1Ey        | Combination | Max      | 6.837675   | 18.464548  | 1.333341  | 0.000999      | 0.000349      |
| 1764  | 0.9D+1Ey        | Combination | Min      | -6.350704  | -18.669583 | -3.382740 | -0.000980     | -0.000321     |
| 1764  | 1D+0.5L         | Combination |          | 0.325147   | -0.133992  | -1.225820 | 0.000012      | 0.000019      |
| 1765  | 1.4D            | Combination |          | 0.334835   | -0.014279  | -1.325818 | 0.000020      | 0.000015      |
| 1765  | 1.2D+1.6L       | Combination |          | 0.442718   | 0.001426   | -1.242648 | 0.000028      | 0.000021      |
| 1765  | 1.2D+1L+1E      | Combination | Max      | 25.929311  | 10.316392  | 2.675558  | 0.000568      | 0.001352      |
| 1765  | 1.2D+1L+1E      | Combination | Min      | -25.160662 | -10.323788 | -5.081179 | -0.000520     | -0.001316     |
| 1765  | 0.9D+1E         | Combination | Max      | 25.760237  | 10.310911  | 3.026057  | 0.000556      | 0.001344      |
| 1765  | 0.9D+1E         | Combination | Min      | -25.329736 | -10.329269 | -4.730680 | -0.000531     | -0.001325     |
| 1765  | 1.2D+1L+1E<br>y | Combination | Max      | 6.973355   | 18.484715  | 0.560660  | 0.000985      | 0.000361      |
| 1765  | 1.2D+1L+1E<br>y | Combination | Min      | -6.204706  | -18.492112 | -2.966281 | -0.000937     | -0.000326     |
| 1765  | 0.9D+1Ey        | Combination | Max      | 6.804281   | 18.479234  | 0.911159  | 0.000974      | 0.000353      |
| 1765  | 0.9D+1Ey        | Combination | Min      | -6.373779  | -18.497593 | -2.615782 | -0.000949     | -0.000334     |
| 1765  | 1D+0.5L         | Combination |          | 0.287829   | -0.005929  | -0.980211 | 0.000018      | 0.000013      |
| 1766  | 1.4D            | Combination |          | 0.375959   | 0.020849   | -1.397570 | 1.920E-06     | 0.000022      |
| 1766  | 1.2D+1.6L       | Combination |          | 0.481765   | 0.047371   | -1.338558 | 3.933E-07     | 0.000029      |
| 1766  | 1.2D+1L+1E      | Combination | Max      | 25.960981  | 11.668748  | 0.323039  | 0.000631      | 0.001361      |
| 1766  | 1.2D+1L+1E      | Combination | Min      | -25.117087 | -11.596131 | -2.894675 | -0.000629     | -0.001311     |
| 1766  | 0.9D+1E         | Combination | Max      | 25.780722  | 11.645843  | 0.710419  | 0.000631      | 0.001351      |
| 1766  | 0.9D+1E         | Combination | Min      | -25.297346 | -11.619037 | -2.507295 | -0.000629     | -0.001322     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1766  | 1.2D+1L+1E<br>y | Combination | Max      | 7.010164   | 18.483346  | 0.247380  | 0.001038      | 0.000369      |
| 1766  | 1.2D+1L+1E<br>y | Combination | Min      | -6.166270  | -18.410729 | -2.819015 | -0.001036     | -0.000319     |
| 1766  | 0.9D+1Ey        | Combination | Max      | 6.829905   | 18.460441  | 0.634760  | 0.001038      | 0.000358      |
| 1766  | 0.9D+1Ey        | Combination | Min      | -6.346529  | -18.433634 | -2.431635 | -0.001036     | -0.000330     |
| 1766  | 1D+0.5L         | Combination |          | 0.318390   | 0.024111   | -1.042215 | 9.799E-07     | 0.000019      |
| 1767  | 1.4D            | Combination |          | 0.356682   | -0.028224  | -1.415171 | 2.161E-06     | 6.792E-06     |
| 1767  | 1.2D+1.6L       | Combination |          | 0.477874   | 0.000190   | -1.352576 | 1.167E-06     | 7.883E-06     |
| 1767  | 1.2D+1L+1E      | Combination | Max      | 25.869035  | 11.629570  | 1.297962  | 0.000632      | 0.001229      |
| 1767  | 1.2D+1L+1E      | Combination | Min      | -25.042398 | -11.647477 | -3.898436 | -0.000629     | -0.001215     |
| 1767  | 0.9D+1E         | Combination | Max      | 25.685012  | 11.620379  | 1.688446  | 0.000632      | 0.001226      |
| 1767  | 0.9D+1E         | Combination | Min      | -25.226421 | -11.656667 | -3.507952 | -0.000629     | -0.001218     |
| 1767  | 1.2D+1L+1E<br>y | Combination | Max      | 7.012101   | 18.446504  | 1.905936  | 0.001036      | 0.000336      |
| 1767  | 1.2D+1L+1E<br>y | Combination | Min      | -6.185463  | -18.464411 | -4.506410 | -0.001033     | -0.000322     |
| 1767  | 0.9D+1Ey        | Combination | Max      | 6.828078   | 18.437314  | 2.296420  | 0.001036      | 0.000333      |
| 1767  | 0.9D+1Ey        | Combination | Min      | -6.369486  | -18.473602 | -4.115926 | -0.001033     | -0.000324     |
| 1767  | 1D+0.5L         | Combination |          | 0.308569   | -0.012541  | -1.054453 | 1.329E-06     | 5.496E-06     |
| 1768  | 1.4D            | Combination |          | 0.226598   | -0.250670  | -1.394242 | 0.000019      | 0.000029      |
| 1768  | 1.2D+1.6L       | Combination |          | 0.272913   | -0.365530  | -1.320896 | 0.000025      | 0.000039      |
| 1768  | 1.2D+1L+1E      | Combination | Max      | 35.225034  | 13.113161  | 0.470280  | 0.000634      | 0.001607      |
| 1768  | 1.2D+1L+1E      | Combination | Min      | -34.738222 | -13.731219 | -3.017698 | -0.000590     | -0.001540     |
| 1768  | 0.9D+1E         | Combination | Max      | 35.127298  | 13.261045  | 0.847691  | 0.000624      | 0.001592      |
| 1768  | 0.9D+1E         | Combination | Min      | -34.835958 | -13.583335 | -2.640287 | -0.000600     | -0.001555     |
| 1768  | 1.2D+1L+1E<br>y | Combination | Max      | 9.269731   | 21.577256  | 1.501486  | 0.001079      | 0.000438      |
| 1768  | 1.2D+1L+1E<br>y | Combination | Min      | -8.782919  | -22.195314 | -4.048904 | -0.001036     | -0.000371     |
| 1768  | 0.9D+1Ey        | Combination | Max      | 9.171995   | 21.725140  | 1.878897  | 0.001070      | 0.000424      |
| 1768  | 0.9D+1Ey        | Combination | Min      | -8.880655  | -22.047430 | -3.671493 | -0.001046     | -0.000386     |
| 1768  | 1D+0.5L         | Combination |          | 0.186445   | -0.226135  | -1.035209 | 0.000016      | 0.000025      |
| 1769  | 1.4D            | Combination |          | 0.222900   | -0.291197  | -1.473728 | 0.000019      | 0.000018      |
| 1769  | 1.2D+1.6L       | Combination |          | 0.283743   | -0.404461  | -1.428004 | 0.000026      | 0.000021      |
| 1769  | 1.2D+1L+1E      | Combination | Max      | 33.832148  | 13.083670  | 0.928604  | 0.000651      | 0.001562      |
| 1769  | 1.2D+1L+1E      | Combination | Min      | -33.334176 | -13.776444 | -3.661005 | -0.000606     | -0.001524     |
| 1769  | 0.9D+1E         | Combination | Max      | 33.726455  | 13.242859  | 1.347408  | 0.000641      | 0.001554      |
| 1769  | 0.9D+1E         | Combination | Min      | -33.439869 | -13.617255 | -3.242201 | -0.000616     | -0.001532     |
| 1769  | 1.2D+1L+1E<br>y | Combination | Max      | 8.894416   | 21.544379  | 0.625985  | 0.001109      | 0.000416      |
| 1769  | 1.2D+1L+1E<br>y | Combination | Min      | -8.396445  | -22.237153 | -3.358387 | -0.001063     | -0.000378     |
| 1769  | 0.9D+1Ey        | Combination | Max      | 8.788723   | 21.703569  | 1.044789  | 0.001098      | 0.000408      |
| 1769  | 0.9D+1Ey        | Combination | Min      | -8.502137  | -22.077964 | -2.939583 | -0.001074     | -0.000385     |
| 1769  | 1D+0.5L         | Combination |          | 0.188179   | -0.256393  | -1.104166 | 0.000017      | 0.000015      |
| 1770  | 1.4D            | Combination |          | 0.262836   | -0.246734  | -1.535480 | -2.223E-06    | 0.000014      |
| 1770  | 1.2D+1.6L       | Combination |          | 0.322755   | -0.348588  | -1.504378 | -5.167E-06    | 0.000018      |
| 1770  | 1.2D+1L+1E      | Combination | Max      | 33.865847  | 11.467386  | 2.506522  | 0.000539      | 0.001537      |
| 1770  | 1.2D+1L+1E      | Combination | Min      | -33.293438 | -12.061736 | -5.374090 | -0.000546     | -0.001505     |
| 1770  | 0.9D+1E         | Combination | Max      | 33.748608  | 11.605946  | 2.953212  | 0.000541      | 0.001530      |
| 1770  | 0.9D+1E         | Combination | Min      | -33.410677 | -11.923175 | -4.927401 | -0.000544     | -0.001512     |
| 1770  | 1.2D+1L+1E<br>y | Combination | Max      | 8.931376   | 21.554125  | 0.653323  | 0.001079      | 0.000408      |
| 1770  | 1.2D+1L+1E<br>y | Combination | Min      | -8.358967  | -22.148475 | -3.520891 | -0.001087     | -0.000376     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1770  | 0.9D+1Ey   | Combination | Max      | 8.814137   | 21.692685  | 1.100013  | 0.001082      | 0.000401      |
| 1770  | 0.9D+1Ey   | Combination | Min      | -8.476206  | -22.009914 | -3.074202 | -0.001085     | -0.000382     |
| 1770  | 1D+0.5L    | Combination |          | 0.218198   | -0.219083  | -1.155601 | -2.607E-06    | 0.000012      |
| 1771  | 1.4D       | Combination |          | 0.219807   | -0.174891  | -1.728251 | 0.000014      | 0.000013      |
| 1771  | 1.2D+1.6L  | Combination |          | 0.265910   | -0.232857  | -1.741786 | 0.000018      | 0.000016      |
| 1771  | 1.2D+1L+1E | Combination | Max      | 35.222836  | 7.631027   | -0.383915 | 0.000400      | 0.001612      |
| 1771  | 1.2D+1L+1E | Combination | Min      | -34.749144 | -8.034528  | -2.904335 | -0.000368     | -0.001583     |
| 1771  | 0.9D+1E    | Combination | Max      | 35.127294  | 7.720347   | 0.149191  | 0.000393      | 0.001606      |
| 1771  | 0.9D+1E    | Combination | Min      | -34.844685 | -7.945207  | -2.371228 | -0.000374     | -0.001589     |
| 1771  | 1.2D+1L+1E | Combination | Max      | 9.264074   | 21.595112  | 0.688282  | 0.001083      | 0.000426      |
|       | y          |             |          |            |            |           |               |               |
| 1771  | 1.2D+1L+1E | Combination | Min      | -8.790382  | -21.998613 | -3.976532 | -0.001051     | -0.000397     |
|       | y          |             |          |            |            |           |               |               |
| 1771  | 0.9D+1Ey   | Combination | Max      | 9.168532   | 21.684433  | 1.221388  | 0.001076      | 0.000420      |
| 1771  | 0.9D+1Ey   | Combination | Min      | -8.885924  | -21.909293 | -3.443425 | -0.001058     | -0.000403     |
| 1771  | 1D+0.5L    | Combination |          | 0.181225   | -0.150844  | -1.315848 | 0.000012      | 0.000011      |
| 1772  | 1.4D       | Combination |          | 0.241492   | -0.183574  | -1.759173 | -2.391E-06    | 0.000015      |
| 1772  | 1.2D+1.6L  | Combination |          | 0.287805   | -0.234958  | -1.779220 | -0.000010     | 0.000018      |
| 1772  | 1.2D+1L+1E | Combination | Max      | 35.240992  | 7.474437   | 0.868452  | 0.000311      | 0.001598      |
| 1772  | 1.2D+1L+1E | Combination | Min      | -34.725991 | -7.886146  | -4.223374 | -0.000325     | -0.001566     |
| 1772  | 0.9D+1E    | Combination | Max      | 35.138736  | 7.562280   | 1.415016  | 0.000316      | 0.001592      |
| 1772  | 0.9D+1E    | Combination | Min      | -34.828246 | -7.798303  | -3.676810 | -0.000320     | -0.001572     |
| 1772  | 1.2D+1L+1E | Combination | Max      | 9.283389   | 21.593561  | 0.737274  | 0.000879      | 0.000423      |
|       | y          |             |          |            |            |           |               |               |
| 1772  | 1.2D+1L+1E | Combination | Min      | -8.768388  | -22.005270 | -4.092196 | -0.000893     | -0.000391     |
|       | y          |             |          |            |            |           |               |               |
| 1772  | 0.9D+1Ey   | Combination | Max      | 9.181133   | 21.681404  | 1.283838  | 0.000885      | 0.000417      |
| 1772  | 0.9D+1Ey   | Combination | Min      | -8.870644  | -21.917427 | -3.545632 | -0.000888     | -0.000397     |
| 1772  | 1D+0.5L    | Combination |          | 0.197748   | -0.155377  | -1.341352 | -4.251E-06    | 0.000012      |
| 1773  | 1.4D       | Combination |          | 0.238703   | -0.218214  | -1.789898 | 0.000013      | 0.000016      |
| 1773  | 1.2D+1.6L  | Combination |          | 0.298590   | -0.276789  | -1.819472 | 0.000017      | 0.000019      |
| 1773  | 1.2D+1L+1E | Combination | Max      | 33.898917  | 7.590478   | -0.318868 | 0.000399      | 0.001553      |
| 1773  | 1.2D+1L+1E | Combination | Min      | -33.372227 | -8.076746  | -3.106121 | -0.000370     | -0.001519     |
| 1773  | 0.9D+1E    | Combination | Max      | 33.789024  | 7.693331   | 0.242978  | 0.000393      | 0.001546      |
| 1773  | 0.9D+1E    | Combination | Min      | -33.482120 | -7.973893  | -2.544275 | -0.000376     | -0.001526     |
| 1773  | 1.2D+1L+1E | Combination | Max      | 8.920397   | 21.554488  | 0.572250  | 0.001085      | 0.000412      |
|       | y          |             |          |            |            |           |               |               |
| 1773  | 1.2D+1L+1E | Combination | Min      | -8.393708  | -22.040755 | -3.997240 | -0.001055     | -0.000378     |
|       | y          |             |          |            |            |           |               |               |
| 1773  | 0.9D+1Ey   | Combination | Max      | 8.810504   | 21.657341  | 1.134096  | 0.001079      | 0.000405      |
| 1773  | 0.9D+1Ey   | Combination | Min      | -8.503601  | -21.937902 | -3.435394 | -0.001061     | -0.000385     |
| 1773  | 1D+0.5L    | Combination |          | 0.199873   | -0.183914  | -1.367647 | 0.000011      | 0.000013      |
| 1774  | 1.4D       | Combination |          | 0.260284   | -0.187906  | -1.825498 | 0.000011      | 0.000017      |
| 1774  | 1.2D+1.6L  | Combination |          | 0.320627   | -0.239346  | -1.863213 | 0.000024      | 0.000022      |
| 1774  | 1.2D+1L+1E | Combination | Max      | 33.917517  | 7.470162   | 0.486560  | 0.000342      | 0.001517      |
| 1774  | 1.2D+1L+1E | Combination | Min      | -33.349409 | -7.890141  | -3.989111 | -0.000305     | -0.001479     |
| 1774  | 0.9D+1E    | Combination | Max      | 33.800788  | 7.559355   | 1.064301  | 0.000330      | 0.001509      |
| 1774  | 0.9D+1E    | Combination | Min      | -33.466138 | -7.800948  | -3.411370 | -0.000316     | -0.001486     |
| 1774  | 1.2D+1L+1E | Combination | Max      | 8.940967   | 21.589041  | 0.536548  | 0.000934      | 0.000405      |
|       | y          |             |          |            |            |           |               |               |
| 1774  | 1.2D+1L+1E | Combination | Min      | -8.372859  | -22.009020 | -4.039099 | -0.000897     | -0.000367     |
|       | y          |             |          |            |            |           |               |               |
| 1774  | 0.9D+1Ey   | Combination | Max      | 8.824238   | 21.678234  | 1.114289  | 0.000922      | 0.000397      |
| 1774  | 0.9D+1Ey   | Combination | Min      | -8.489588  | -21.919827 | -3.461358 | -0.000908     | -0.000375     |
| 1774  | 1D+0.5L    | Combination |          | 0.216394   | -0.158682  | -1.397209 | 0.000012      | 0.000015      |
| 1775  | 1.4D       | Combination |          | 0.237235   | -0.077851  | -1.691470 | 0.000010      | 9.746E-06     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1775  | 1.2D+1.6L       | Combination |          | 0.283504   | -0.058589  | -1.714863 | 9.818E-06     | 0.000011      |
| 1775  | 1.2D+1L+1E      | Combination | Max      | 35.237172  | 14.181997  | -0.121644 | 0.000629      | 0.001541      |
| 1775  | 1.2D+1L+1E      | Combination | Min      | -34.730284 | -14.305281 | -3.109309 | -0.000610     | -0.001521     |
| 1775  | 0.9D+1E         | Combination | Max      | 35.136236  | 14.193592  | 0.406459  | 0.000626      | 0.001537      |
| 1775  | 0.9D+1E         | Combination | Min      | -34.831220 | -14.293686 | -2.581206 | -0.000613     | -0.001525     |
| 1775  | 1.2D+1L+1E<br>y | Combination | Max      | 9.279498   | 22.046409  | 0.775440  | 0.001031      | 0.000406      |
| 1775  | 1.2D+1L+1E<br>y | Combination | Min      | -8.772610  | -22.169693 | -4.006393 | -0.001012     | -0.000386     |
| 1775  | 0.9D+1Ey        | Combination | Max      | 9.178562   | 22.058004  | 1.303543  | 0.001028      | 0.000402      |
| 1775  | 0.9D+1Ey        | Combination | Min      | -8.873546  | -22.158098 | -3.478290 | -0.001014     | -0.000389     |
| 1775  | 1D+0.5L         | Combination |          | 0.194503   | -0.053064  | -1.291015 | 7.694E-06     | 7.742E-06     |
| 1776  | 1.4D            | Combination |          | 0.277786   | -0.118315  | -1.731513 | 0.000011      | 0.000013      |
| 1776  | 1.2D+1.6L       | Combination |          | 0.337398   | -0.099615  | -1.753071 | 0.000011      | 0.000017      |
| 1776  | 1.2D+1L+1E      | Combination | Max      | 33.885562  | 14.151366  | 0.548577  | 0.000655      | 0.001552      |
| 1776  | 1.2D+1L+1E      | Combination | Min      | -33.285238 | -14.351944 | -3.853031 | -0.000634     | -0.001523     |
| 1776  | 0.9D+1E         | Combination | Max      | 33.763977  | 14.175596  | 1.087689  | 0.000651      | 0.001546      |
| 1776  | 0.9D+1E         | Combination | Min      | -33.406824 | -14.327715 | -3.313920 | -0.000638     | -0.001529     |
| 1776  | 1.2D+1L+1E<br>y | Combination | Max      | 8.944321   | 22.018267  | 0.581650  | 0.001071      | 0.000410      |
| 1776  | 1.2D+1L+1E<br>y | Combination | Min      | -8.343997  | -22.218845 | -3.886104 | -0.001050     | -0.000381     |
| 1776  | 0.9D+1Ey        | Combination | Max      | 8.822736   | 22.042497  | 1.120761  | 0.001067      | 0.000404      |
| 1776  | 0.9D+1Ey        | Combination | Min      | -8.465583  | -22.194616 | -3.346993 | -0.001053     | -0.000387     |
| 1776  | 1D+0.5L         | Combination |          | 0.229448   | -0.083949  | -1.320831 | 8.185E-06     | 0.000011      |
| 1777  | 1.4D            | Combination |          | 0.406869   | -0.304429  | -1.862880 | 0.000027      | 0.000019      |
| 1777  | 1.2D+1.6L       | Combination |          | 0.534560   | -0.396584  | -1.911251 | 0.000039      | 0.000026      |
| 1777  | 1.2D+1L+1E      | Combination | Max      | 30.194847  | 9.761573   | 2.254865  | 0.000519      | 0.001376      |
| 1777  | 1.2D+1L+1E      | Combination | Min      | -29.265089 | -10.453007 | -5.841493 | -0.000453     | -0.001332     |
| 1777  | 0.9D+1E         | Combination | Max      | 29.991527  | 9.911586   | 2.850614  | 0.000503      | 0.001366      |
| 1777  | 0.9D+1E         | Combination | Min      | -29.468409 | -10.302995 | -5.245744 | -0.000469     | -0.001342     |
| 1777  | 1.2D+1L+1E<br>y | Combination | Max      | 8.129740   | 21.636649  | 0.228059  | 0.001053      | 0.000371      |
| 1777  | 1.2D+1L+1E<br>y | Combination | Min      | -7.199982  | -22.328083 | -3.814688 | -0.000987     | -0.000326     |
| 1777  | 0.9D+1Ey        | Combination | Max      | 7.926420   | 21.786662  | 0.823808  | 0.001038      | 0.000361      |
| 1777  | 0.9D+1Ey        | Combination | Min      | -7.403302  | -22.178071 | -3.218939 | -0.001003     | -0.000336     |
| 1777  | 1D+0.5L         | Combination |          | 0.348688   | -0.259838  | -1.428908 | 0.000024      | 0.000017      |
| 1778  | 1.4D            | Combination |          | 0.359296   | -0.305596  | -1.787183 | 0.000018      | 0.000020      |
| 1778  | 1.2D+1.6L       | Combination |          | 0.486014   | -0.410444  | -1.809611 | 0.000024      | 0.000027      |
| 1778  | 1.2D+1L+1E      | Combination | Max      | 30.148321  | 11.147392  | -0.163166 | 0.000575      | 0.001384      |
| 1778  | 1.2D+1L+1E      | Combination | Min      | -29.309827 | -11.856901 | -3.247751 | -0.000534     | -0.001338     |
| 1778  | 0.9D+1E         | Combination | Max      | 29.960050  | 11.305692  | 0.393389  | 0.000566      | 0.001374      |
| 1778  | 0.9D+1E         | Combination | Min      | -29.498099 | -11.698601 | -2.691195 | -0.000543     | -0.001349     |
| 1778  | 1.2D+1L+1E<br>y | Combination | Max      | 8.083257   | 21.710642  | 0.097268  | 0.001111      | 0.000373      |
| 1778  | 1.2D+1L+1E<br>y | Combination | Min      | -7.244763  | -22.420151 | -3.508186 | -0.001070     | -0.000327     |
| 1778  | 0.9D+1Ey        | Combination | Max      | 7.894986   | 21.868942  | 0.653824  | 0.001102      | 0.000363      |
| 1778  | 0.9D+1Ey        | Combination | Min      | -7.433034  | -22.261851 | -2.951630 | -0.001079     | -0.000337     |
| 1778  | 1D+0.5L         | Combination |          | 0.312279   | -0.264690  | -1.363353 | 0.000015      | 0.000017      |
| 1779  | 1.4D            | Combination |          | 0.427330   | -0.353792  | -1.874401 | 0.000022      | -0.000039     |
| 1779  | 1.2D+1.6L       | Combination |          | 0.570421   | -0.459672  | -1.927115 | 0.000030      | -0.000049     |
| 1779  | 1.2D+1L+1E      | Combination | Max      | 30.015812  | 11.102414  | 0.457141  | 0.000574      | 0.000988      |
| 1779  | 1.2D+1L+1E      | Combination | Min      | -29.028074 | -11.904442 | -4.071007 | -0.000522     | -0.001075     |
| 1779  | 0.9D+1E         | Combination | Max      | 29.796655  | 11.275990  | 1.059102  | 0.000562      | 0.001007      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1779  | 0.9D+1E    | Combination | Min      | -29.247230 | -11.730866 | -3.469046 | -0.000534     | -0.001057     |
| 1779  | 1.2D+1L+1E | Combination | Max      | 8.141276   | 21.663838  | 1.367347  | 0.001100      | 0.000233      |
|       | y          |             |          |            |            |           |               |               |
| 1779  | 1.2D+1L+1E | Combination | Min      | -7.153537  | -22.465866 | -4.981213 | -0.001048     | -0.000319     |
|       | y          |             |          |            |            |           |               |               |
| 1779  | 0.9D+1Ey   | Combination | Max      | 7.922119   | 21.837414  | 1.969308  | 0.001089      | 0.000251      |
| 1779  | 0.9D+1Ey   | Combination | Min      | -7.372694  | -22.292290 | -4.379253 | -0.001060     | -0.000301     |
| 1779  | 1D+0.5L    | Combination |          | 0.369029   | -0.301591  | -1.439010 | 0.000019      | -0.000033     |
| 1780  | 1.4D       | Combination |          | 0.397731   | -0.190882  | -1.672349 | -0.000025     | 0.000021      |
| 1780  | 1.2D+1.6L  | Combination |          | 0.525003   | -0.242022  | -1.709476 | -0.000034     | 0.000029      |
| 1780  | 1.2D+1L+1E | Combination | Max      | 30.233309  | 7.468906   | 0.629246  | 0.000291      | 0.001361      |
| 1780  | 1.2D+1L+1E | Combination | Min      | -29.321372 | -7.894144  | -3.841173 | -0.000350     | -0.001312     |
| 1780  | 0.9D+1E    | Combination | Max      | 30.033025  | 7.558815   | 1.160128  | 0.000305      | 0.001350      |
| 1780  | 0.9D+1E    | Combination | Min      | -29.521657 | -7.804235  | -3.310291 | -0.000337     | -0.001323     |
| 1780  | 1.2D+1L+1E | Combination | Max      | 8.132848   | 21.592288  | 0.819384  | 0.000879      | 0.000369      |
|       | y          |             |          |            |            |           |               |               |
| 1780  | 1.2D+1L+1E | Combination | Min      | -7.220910  | -22.017526 | -4.031311 | -0.000938     | -0.000320     |
|       | y          |             |          |            |            |           |               |               |
| 1780  | 0.9D+1Ey   | Combination | Max      | 7.932563   | 21.682197  | 1.350266  | 0.000893      | 0.000358      |
| 1780  | 0.9D+1Ey   | Combination | Min      | -7.421195  | -21.927617 | -3.500429 | -0.000925     | -0.000331     |
| 1780  | 1D+0.5L    | Combination |          | 0.341622   | -0.160847  | -1.280796 | -0.000022     | 0.000018      |
| 1781  | 1.4D       | Combination |          | 0.376046   | -0.190685  | -1.629250 | 0.000014      | 0.000019      |
| 1781  | 1.2D+1.6L  | Combination |          | 0.502898   | -0.248803  | -1.651562 | 0.000018      | 0.000026      |
| 1781  | 1.2D+1L+1E | Combination | Max      | 30.213062  | 7.615078   | -0.386028 | 0.000399      | 0.001389      |
| 1781  | 1.2D+1L+1E | Combination | Min      | -29.342696 | -8.048665  | -2.725801 | -0.000368     | -0.001344     |
| 1781  | 0.9D+1E    | Combination | Max      | 30.019623  | 7.709288   | 0.122511  | 0.000392      | 0.001379      |
| 1781  | 0.9D+1E    | Combination | Min      | -29.536136 | -7.954454  | -2.217262 | -0.000374     | -0.001354     |
| 1781  | 1.2D+1L+1E | Combination | Max      | 8.111770   | 21.608140  | 0.841531  | 0.001083      | 0.000374      |
|       | y          |             |          |            |            |           |               |               |
| 1781  | 1.2D+1L+1E | Combination | Min      | -7.241404  | -22.041727 | -3.953359 | -0.001052     | -0.000329     |
|       | y          |             |          |            |            |           |               |               |
| 1781  | 0.9D+1Ey   | Combination | Max      | 7.918330   | 21.702350  | 1.350070  | 0.001076      | 0.000364      |
| 1781  | 0.9D+1Ey   | Combination | Min      | -7.434843  | -21.947517 | -3.444820 | -0.001058     | -0.000339     |
| 1781  | 1D+0.5L    | Combination |          | 0.325033   | -0.162878  | -1.243457 | 0.000012      | 0.000017      |
| 1782  | 1.4D       | Combination |          | 0.422119   | -0.235112  | -1.689485 | 0.000013      | 0.000021      |
| 1782  | 1.2D+1.6L  | Combination |          | 0.565024   | -0.294252  | -1.729281 | 0.000017      | 0.000029      |
| 1782  | 1.2D+1L+1E | Combination | Max      | 30.012004  | 7.572953   | -0.412475 | 0.000397      | 0.001364      |
| 1782  | 1.2D+1L+1E | Combination | Min      | -29.034363 | -8.091912  | -2.835223 | -0.000367     | -0.001314     |
| 1782  | 0.9D+1E    | Combination | Max      | 29.794545  | 7.681289   | 0.125276  | 0.000391      | 0.001353      |
| 1782  | 0.9D+1E    | Combination | Min      | -29.251821 | -7.983576  | -2.297471 | -0.000374     | -0.001325     |
| 1782  | 1.2D+1L+1E | Combination | Max      | 8.136784   | 21.566862  | 0.791715  | 0.001080      | 0.000371      |
|       | y          |             |          |            |            |           |               |               |
| 1782  | 1.2D+1L+1E | Combination | Min      | -7.159143  | -22.085821 | -4.039413 | -0.001050     | -0.000321     |
|       | y          |             |          |            |            |           |               |               |
| 1782  | 0.9D+1Ey   | Combination | Max      | 7.919326   | 21.675198  | 1.329466  | 0.001073      | 0.000360      |
| 1782  | 0.9D+1Ey   | Combination | Min      | -7.376602  | -21.977485 | -3.501661 | -0.001056     | -0.000332     |
| 1782  | 1D+0.5L    | Combination |          | 0.365016   | -0.196914  | -1.294635 | 0.000011      | 0.000018      |
| 1783  | 1.4D       | Combination |          | 0.442360   | -0.194576  | -1.735211 | 0.000017      | 0.000023      |
| 1783  | 1.2D+1.6L  | Combination |          | 0.585884   | -0.245725  | -1.791530 | 0.000021      | 0.000031      |
| 1783  | 1.2D+1L+1E | Combination | Max      | 30.029383  | 7.465991   | 0.478106  | 0.000381      | 0.001344      |
| 1783  | 1.2D+1L+1E | Combination | Min      | -29.012653 | -7.898232  | -3.833011 | -0.000344     | -0.001290     |
| 1783  | 0.9D+1E    | Combination | Max      | 29.805392  | 7.557027   | 1.040065  | 0.000373      | 0.001332      |
| 1783  | 0.9D+1E    | Combination | Min      | -29.236644 | -7.807196  | -3.271051 | -0.000352     | -0.001302     |
| 1783  | 1.2D+1L+1E | Combination | Max      | 8.155064   | 21.590726  | 0.774272  | 0.001043      | 0.000367      |
|       | y          |             |          |            |            |           |               |               |

# Force Based Design Output

**Table: Base Reactions, Part 1 of 4**

| Table: Base Reactions, Part 1 of 4 |           |          |           |                 |                 |                 |                    |                    |
|------------------------------------|-----------|----------|-----------|-----------------|-----------------|-----------------|--------------------|--------------------|
| OutputCase                         | CaseType  | StepType | StepNum   | GlobalFX<br>Kgf | GlobalFY<br>Kgf | GlobalFZ<br>Kgf | GlobalMX<br>Kgf-mm | GlobalMY<br>Kgf-mm |
| DEAD                               | LinStatic |          |           | -1.481E-08      | 7.891E-09       | 53728718.12     | -1.266E+12         | -2.345E+10         |
| MODAL                              | LinModal  | Mode     | 1.000000  | -396.12         | 9.12            | 0.23            | -512912.94         | -23720601.8        |
| MODAL                              | LinModal  | Mode     | 2.000000  | 217.06          | 24.34           | -0.21           | -1396712.60        | 13041631.72        |
| MODAL                              | LinModal  | Mode     | 3.000000  | -1.85           | 576.07          | 0.34            | -35162683.         | -76557.51          |
| MODAL                              | LinModal  | Mode     | 4.000000  | 2154.09         | -155.12         | 3.57            | 42786.07           | 12046170.28        |
| MODAL                              | LinModal  | Mode     | 5.000000  | 1330.83         | 275.54          | 1.81            | -1146599.14        | 7824963.22         |
| MODAL                              | LinModal  | Mode     | 6.000000  | 42.34           | 4316.18         | -12.99          | -43039757.         | 576282.02          |
| MODAL                              | LinModal  | Mode     | 7.000000  | -6056.40        | 572.01          | 15.99           | -7234985.18        | -72331281.         |
| MODAL                              | LinModal  | Mode     | 8.000000  | -2587.42        | -780.45         | 35.34           | 7980903.64         | -31007462.4        |
| MODAL                              | LinModal  | Mode     | 9.000000  | 1008.44         | 14005.62        | 43.23           | -159655721         | 14287698.66        |
| MODAL                              | LinModal  | Mode     | 10.000000 | -250.79         | 1939.90         | -32.14          | -22005579.9        | -10563568.0        |
| MODAL                              | LinModal  | Mode     | 11.000000 | 3851.41         | -1540.26        | 224.64          | 12146095.92        | 33841834.99        |
| MODAL                              | LinModal  | Mode     | 12.000000 | -11138.32       | 996.62          | -88.15          | 3598112.07         | -50608259.         |
| MODAL                              | LinModal  | Mode     | 13.000000 | -4529.90        | -1616.37        | -15.08          | 5553608.70         | -22305173.5        |
| MODAL                              | LinModal  | Mode     | 14.000000 | 70.37           | 4.68            | -19461.84       | 739755196.         | 171991405.6        |
| MODAL                              | LinModal  | Mode     | 15.000000 | -7973.56        | 2192.07         | -294.62         | -13077483.2        | -91532142.         |
| MODAL                              | LinModal  | Mode     | 16.000000 | 19512.84        | -6980.91        | -199.27         | 45269297.50        | 130628300.5        |
| MODAL                              | LinModal  | Mode     | 17.000000 | 6210.13         | 30014.37        | 161.05          | -136277924         | 28142491.54        |
| MODAL                              | LinModal  | Mode     | 18.000000 | 8486.38         | 2080.91         | -987.56         | 13424934.82        | 59446943.09        |
| MODAL                              | LinModal  | Mode     | 19.000000 | 568.47          | -633.19         | -5807.38        | 247458880.4        | -28960061.0        |
| MODAL                              | LinModal  | Mode     | 20.000000 | -491.29         | -813.65         | -57294.50       | 2539160094         | -105021063         |
| MODAL                              | LinModal  | Mode     | 21.000000 | 512.34          | -353.82         | -4278.47        | 77152976.60        | -81883582.         |
| MODAL                              | LinModal  | Mode     | 22.000000 | -1799.09        | 1153.44         | 58076.46        | -2307671384        | 1258758247         |
| MODAL                              | LinModal  | Mode     | 23.000000 | -1299.98        | -943.40         | 135558.80       | -1203176524        | 183728428.0        |
| MODAL                              | LinModal  | Mode     | 24.000000 | -15014.89       | 3814.82         | -33626.41       | 723705145.         | 244051469.4        |
| MODAL                              | LinModal  | Mode     | 25.000000 | -1266.22        | 630.07          | 25749.23        | -1285754628        | 274083906.3        |
| MODAL                              | LinModal  | Mode     | 26.000000 | -6054.85        | 1466.25         | 7928.23         | -137283092         | -1462647522        |
| MODAL                              | LinModal  | Mode     | 27.000000 | 2362.30         | -1225.49        | -20231.04       | 1191545988         | -939563960         |
| MODAL                              | LinModal  | Mode     | 28.000000 | 5270.61         | -1198.76        | 44379.03        | -1448447581        | 441488289.         |
| MODAL                              | LinModal  | Mode     | 29.000000 | 2078.41         | -948.71         | -112051.87      | 2149120698         | 1277371281         |
| MODAL                              | LinModal  | Mode     | 30.000000 | 29975.41        | -6219.34        | -8656.44        | 245175547.3        | -72808867.         |
| MODAL                              | LinModal  | Mode     | 31.000000 | 1460.87         | -786.23         | 58282.84        | -2256822171        | 1302333328         |
| MODAL                              | LinModal  | Mode     | 32.000000 | -1004.58        | 629.11          | 40226.13        | -1601877080        | -770839796         |
| MODAL                              | LinModal  | Mode     | 33.000000 | -2317.10        | 1463.81         | -40879.47       | 44332277.20        | 1119779529         |
| MODAL                              | LinModal  | Mode     | 34.000000 | -949.48         | 1639.55         | -50342.31       | 2160357708         | 151761894.7        |
| MODAL                              | LinModal  | Mode     | 35.000000 | -3096.55        | 410.30          | 13434.20        | -170287504         | -612921606         |
| MODAL                              | LinModal  | Mode     | 36.000000 | 869.95          | 609.87          | -16389.06       | 616193844.         | -227616936         |
| MODAL                              | LinModal  | Mode     | 37.000000 | -2278.82        | -3134.71        | -6696.53        | 137360466.4        | 487304603.         |
| MODAL                              | LinModal  | Mode     | 38.000000 | 12646.44        | 5982.22         | -33443.00       | 744010115.         | 153409223.1        |
| MODAL                              | LinModal  | Mode     | 39.000000 | -7064.56        | -9627.19        | -52109.34       | 1156215511         | -166851334         |
| MODAL                              | LinModal  | Mode     | 40.000000 | 119.51          | -4004.11        | 67698.45        | -2352415560        | -1298184713        |
| MODAL                              | LinModal  | Mode     | 41.000000 | -4349.33        | -49243.19       | -15903.92       | 709978423.         | -38703014.         |
| MODAL                              | LinModal  | Mode     | 42.000000 | -1341.82        | -11512.26       | 28034.35        | -212435182         | 784063959.         |
| MODAL                              | LinModal  | Mode     | 43.000000 | -1124.92        | -8984.83        | 45482.58        | -1659920695        | 104038184.1        |
| MODAL                              | LinModal  | Mode     | 44.000000 | -251.60         | -2212.61        | -19408.77       | 87946429.45        | -95053890.         |
| MODAL                              | LinModal  | Mode     | 45.000000 | 897.69          | 2087.44         | -14760.35       | 204587610.1        | -76002966.         |
| MODAL                              | LinModal  | Mode     | 46.000000 | 373.44          | 175.74          | 9868.98         | -451093206         | 297587380.0        |
| MODAL                              | LinModal  | Mode     | 47.000000 | 1150.89         | 217.94          | 7569.81         | 65393689.95        | 519766611.         |
| MODAL                              | LinModal  | Mode     | 48.000000 | 971.92          | -2810.94        | 3174.33         | -293117127         | -329358239         |
| MODAL                              | LinModal  | Mode     | 49.000000 | 568.30          | -405.73         | 33431.09        | -457910212         | 679277922.         |

Table: Base Reactions, Part 1 of 4

| OutputCase | CaseType    | StepType | StepNum   | GlobalFX<br>Kgf | GlobalFY<br>Kgf | GlobalFZ<br>Kgf | GlobalMX<br>Kgf-mm | GlobalMY<br>Kgf-mm |
|------------|-------------|----------|-----------|-----------------|-----------------|-----------------|--------------------|--------------------|
| MODAL      | LinModal    | Mode     | 50.000000 | 1231.36         | -222.57         | 23266.06        | -237728793         | 659829712.         |
| LIVE       | LinStatic   |          |           | -2.280E-08      | -2.509E-08      | 8824837.87      | -2.117E+11         | -3684555919        |
| D++        | LinStatic   |          |           | -1.377E-08      | -1.515E-08      | 5346434.62      | -1.283E+11         | -2232249206        |
| QUAKE X    | LinRespSpec | Max      |           | 1956398.97      | 694659.57       | 9420.10         | 3.310E+10          | 9.228E+10          |
| QUAKE Y    | LinRespSpec | Max      |           | 591525.29       | 2302248.05      | 11196.43        | 1.102E+11          | 2.774E+10          |
| 1.4D       | Combination |          |           | -4.002E-08      | -1.016E-08      | 82705213.84     | -1.952E+12         | -3.596E+10         |
| 1.2D+1.6L  | Combination |          |           | -7.078E-08      | -4.884E-08      | 85009923.90     | -2.012E+12         | -3.672E+10         |
| 1.2D+1L+1E | Combination | Max      |           | 4171042.61      | 1481014.19      | 79735104.83     | -1.814E+12         | 1.622E+11          |
| 1.2D+1L+1E | Combination | Min      |           | -4171042.61     | -1481014.19     | 79694937.51     | -1.955E+12         | -2.312E+11         |
| 0.9D+1E    | Combination | Max      |           | 4171042.61      | 1481014.19      | 53187721.13     | -1.184E+12         | 1.736E+11          |
| 0.9D+1E    | Combination | Min      |           | -4171042.61     | -1481014.19     | 53147553.81     | -1.325E+12         | -2.199E+11         |
| 1.2D+1L+1E | Combination | Max      |           | 1076576.02      | 4190091.46      | 79735398.68     | -1.684E+12         | 1.597E+10          |
| y          |             |          |           |                 |                 |                 |                    |                    |
| 1.2D+1L+1E | Combination | Min      |           | -1076576.02     | -4190091.46     | 79694643.67     | -2.085E+12         | -8.498E+10         |
| y          |             |          |           |                 |                 |                 |                    |                    |
| 0.9D+1Ey   | Combination | Max      |           | 1076576.02      | 4190091.46      | 53188014.98     | -1.054E+12         | 2.736E+10          |
| 0.9D+1Ey   | Combination | Min      |           | -1076576.02     | -4190091.46     | 53147259.97     | -1.455E+12         | -7.359E+10         |
| 1D+0.5L    | Combination |          |           | -3.999E-08      | -1.980E-08      | 63487571.68     | -1.500E+12         | -2.753E+10         |
| COMB1      | Combination | Max      |           | 4171042.61      | 1481014.19      | 20083.66        | 7.056E+10          | 1.967E+11          |
| COMB1      | Combination | Min      |           | -4171042.61     | -1481014.19     | -20083.66       | -7.056E+10         | -1.967E+11         |
| COMB2      | Combination | Max      |           | 1076576.02      | 4190091.46      | 20377.50        | 2.005E+11          | 5.048E+10          |
| COMB2      | Combination | Min      |           | -1076576.02     | -4190091.46     | -20377.50       | -2.005E+11         | -5.048E+10         |
| ENVELOPE   | Combination | Max      |           | 4171042.61      | 4190091.46      | 85009923.90     | -1.054E+12         | 1.736E+11          |
| ENVELOPE   | Combination | Min      |           | -4171042.61     | -4190091.46     | 53147259.97     | -2.085E+12         | -2.312E+11         |

Table: Base Reactions, Part 2 of 4

Table: Base Reactions, Part 2 of 4

| OutputCase | StepType | StepNum   | GlobalMZ<br>Kgf-mm | GlobalX<br>mm | GlobalY<br>mm | GlobalZ<br>mm | XCcentroidF<br>X<br>mm | YCentroidF<br>X<br>mm |
|------------|----------|-----------|--------------------|---------------|---------------|---------------|------------------------|-----------------------|
| DEAD       |          |           | -1.946E-03         | 0.00          | 0.00          | 0.00          | 2.456E+17              | -8.358E+15            |
| MODAL      | Mode     | 1.000000  | -5531398.41        | 0.00          | 0.00          | 0.00          | 1073.02                | -21896.71             |
| MODAL      | Mode     | 2.000000  | 14491219.82        | 0.00          | 0.00          | 0.00          | -220.75                | -32981.31             |
| MODAL      | Mode     | 3.000000  | -354182.85         | 0.00          | 0.00          | 0.00          | -90058.95              | -89392.46             |
| MODAL      | Mode     | 4.000000  | 27425438.75        | 0.00          | 0.00          | 0.00          | 1040.50                | -22069.33             |
| MODAL      | Mode     | 5.000000  | 81316036.18        | 0.00          | 0.00          | 0.00          | -327.87                | -30920.01             |
| MODAL      | Mode     | 6.000000  | -7275391.88        | 0.00          | 0.00          | 0.00          | 38117.27               | 23953.28              |
| MODAL      | Mode     | 7.000000  | -96213947.         | 0.00          | 0.00          | 0.00          | 634.58                 | -22472.58             |
| MODAL      | Mode     | 8.000000  | -206163809         | 0.00          | 0.00          | 0.00          | -815.75                | -36372.72             |
| MODAL      | Mode     | 9.000000  | -5097632.43        | 0.00          | 0.00          | 0.00          | 4653.33                | -17476.25             |
| MODAL      | Mode     | 10.000000 | -12353024.2        | 0.00          | 0.00          | 0.00          | 297.99                 | -25242.05             |
| MODAL      | Mode     | 11.000000 | 93869024.19        | 0.00          | 0.00          | 0.00          | 1093.69                | -23017.09             |
| MODAL      | Mode     | 12.000000 | -176814933         | 0.00          | 0.00          | 0.00          | 374.99                 | -21912.94             |
| MODAL      | Mode     | 13.000000 | -393631285         | 0.00          | 0.00          | 0.00          | -132.32                | -43358.81             |
| MODAL      | Mode     | 14.000000 | -3699896.99        | 0.00          | 0.00          | 0.00          | 10525.89               | 4758.30               |
| MODAL      | Mode     | 15.000000 | -215228632         | 0.00          | 0.00          | 0.00          | 1580.58                | -22850.09             |
| MODAL      | Mode     | 16.000000 | 303057025.5        | 0.00          | 0.00          | 0.00          | 307.92                 | -21039.05             |
| MODAL      | Mode     | 17.000000 | 59989453.54        | 0.00          | 0.00          | 0.00          | 1681.70                | -20454.55             |
| MODAL      | Mode     | 18.000000 | 688903540.         | 0.00          | 0.00          | 0.00          | 445.36                 | -46158.67             |
| MODAL      | Mode     | 19.000000 | -17701180.2        | 0.00          | 0.00          | 0.00          | -43719.63              | -97065.64             |
| MODAL      | Mode     | 20.000000 | -8090474.32        | 0.00          | 0.00          | 0.00          | -5046.66               | -30284.26             |
| MODAL      | Mode     | 21.000000 | -15740125.2        | 0.00          | 0.00          | 0.00          | -17018.48              | -37381.08             |
| MODAL      | Mode     | 22.000000 | -56646684.         | 0.00          | 0.00          | 0.00          | 5587.36                | -18257.13             |



Table: Base Reactions, Part 2 of 4

| OutputCase | StepType | StepNum   | GlobalMZ    | GlobalX | GlobalY | GlobalZ | XCentroidF<br>X | YCentroidF<br>X |
|------------|----------|-----------|-------------|---------|---------|---------|-----------------|-----------------|
|            |          |           | Kgf-mm      | mm      | mm      | mm      | mm              | mm              |
| MODAL      | Mode     | 23.000000 | -38112730.  | 0.00    | 0.00    | 0.00    | 7591.08         | -20642.42       |
| MODAL      | Mode     | 24.000000 | -452193171  | 0.00    | 0.00    | 0.00    | 2016.95         | -22107.17       |
| MODAL      | Mode     | 25.000000 | -46342597.  | 0.00    | 0.00    | 0.00    | 3605.83         | -22043.48       |
| MODAL      | Mode     | 26.000000 | -175064568  | 0.00    | 0.00    | 0.00    | 2193.85         | -21612.38       |
| MODAL      | Mode     | 27.000000 | 20143144.56 | 0.00    | 0.00    | 0.00    | -16051.42       | -49704.43       |
| MODAL      | Mode     | 28.000000 | 58730036.16 | 0.00    | 0.00    | 0.00    | -7429.94        | -32749.31       |
| MODAL      | Mode     | 29.000000 | 34804848.57 | 0.00    | 0.00    | 0.00    | -2953.57        | -30963.76       |
| MODAL      | Mode     | 30.000000 | 420556779.  | 0.00    | 0.00    | 0.00    | 533.38          | -19842.91       |
| MODAL      | Mode     | 31.000000 | 9088003.52  | 0.00    | 0.00    | 0.00    | -5927.65        | -18062.40       |
| MODAL      | Mode     | 32.000000 | -23644977.5 | 0.00    | 0.00    | 0.00    | 3870.17         | -21052.96       |
| MODAL      | Mode     | 33.000000 | -42293758.  | 0.00    | 0.00    | 0.00    | -361.58         | -18785.17       |
| MODAL      | Mode     | 34.000000 | -57154295.  | 0.00    | 0.00    | 0.00    | -3619.61        | -45043.20       |
| MODAL      | Mode     | 35.000000 | -84175416.  | 0.00    | 0.00    | 0.00    | -887.04         | -25936.04       |
| MODAL      | Mode     | 36.000000 | 85867943.73 | 0.00    | 0.00    | 0.00    | -358.89         | -60524.18       |
| MODAL      | Mode     | 37.000000 | -187814389  | 0.00    | 0.00    | 0.00    | -1143.10        | -50923.88       |
| MODAL      | Mode     | 38.000000 | 892744664.  | 0.00    | 0.00    | 0.00    | 1133.80         | -44414.30       |
| MODAL      | Mode     | 39.000000 | -494210945  | 0.00    | 0.00    | 0.00    | -463.37         | -44221.38       |
| MODAL      | Mode     | 40.000000 | 44856235.04 | 0.00    | 0.00    | 0.00    | -107359.33      | -109348.31      |
| MODAL      | Mode     | 41.000000 | 137167566.1 | 0.00    | 0.00    | 0.00    | 1663.89         | -4152.14        |
| MODAL      | Mode     | 42.000000 | 3082021.42  | 0.00    | 0.00    | 0.00    | 13912.73        | -20479.89       |
| MODAL      | Mode     | 43.000000 | 4910983.59  | 0.00    | 0.00    | 0.00    | 10803.50        | -10857.24       |
| MODAL      | Mode     | 44.000000 | -9712593.26 | 0.00    | 0.00    | 0.00    | -14615.53       | 7226.01         |
| MODAL      | Mode     | 45.000000 | 83352229.19 | 0.00    | 0.00    | 0.00    | -21774.81       | -1103.56        |
| MODAL      | Mode     | 46.000000 | 27657612.88 | 0.00    | 0.00    | 0.00    | 16774.82        | -26533.20       |
| MODAL      | Mode     | 47.000000 | -9472808.96 | 0.00    | 0.00    | 0.00    | 7558.16         | -10436.48       |
| MODAL      | Mode     | 48.000000 | 41162468.72 | 0.00    | 0.00    | 0.00    | -22743.32       | -52832.36       |
| MODAL      | Mode     | 49.000000 | 27404034.50 | 0.00    | 0.00    | 0.00    | 11803.78        | -97254.28       |
| MODAL      | Mode     | 50.000000 | 56396371.49 | 0.00    | 0.00    | 0.00    | -12617.49       | -13888.77       |
| LIVE       |          |           | -1.850E-03  | 0.00    | 0.00    | 0.00    | 3.085E+16       | -1.714E+15      |
| D++        |          |           | -1.121E-03  | 0.00    | 0.00    | 0.00    | 3.082E+16       | -1.708E+15      |
| QUAKE X    | Max      |           | 4.517E+10   | 0.00    | 0.00    | 0.00    | 83912534.47     | 102273741.2     |
| QUAKE Y    | Max      |           | 1.405E+10   | 0.00    | 0.00    | 0.00    | 279436594.5     | 281859043.9     |
| 1.4D       |          |           | -4.293E-03  | 0.00    | 0.00    | 0.00    | 3.870E+17       | -1.409E+16      |
| 1.2D+1.6L  |          |           | -6.640E-03  | 0.00    | 0.00    | 0.00    | 3.811E+17       | -1.482E+16      |
| 1.2D+1L+1E | Max      |           | 9.631E+10   | 0.00    | 0.00    | 0.00    | 3.626E+17       | -1.379E+16      |
| 1.2D+1L+1E | Min      |           | -9.631E+10  | 0.00    | 0.00    | 0.00    | 3.626E+17       | -1.379E+16      |
| 0.9D+1E    | Max      |           | 9.631E+10   | 0.00    | 0.00    | 0.00    | 2.488E+17       | -9.059E+15      |
| 0.9D+1E    | Min      |           | -9.631E+10  | 0.00    | 0.00    | 0.00    | 2.488E+17       | -9.059E+15      |
| 1.2D+1L+1E | Max      |           | 2.556E+10   | 0.00    | 0.00    | 0.00    | 3.626E+17       | -1.379E+16      |
| y          |          |           |             |         |         |         |                 |                 |
| 1.2D+1L+1E | Min      |           | -2.556E+10  | 0.00    | 0.00    | 0.00    | 3.626E+17       | -1.379E+16      |
| y          |          |           |             |         |         |         |                 |                 |
| 0.9D+1Ey   | Max      |           | 2.556E+10   | 0.00    | 0.00    | 0.00    | 2.488E+17       | -9.059E+15      |
| 0.9D+1Ey   | Min      |           | -2.556E+10  | 0.00    | 0.00    | 0.00    | 2.488E+17       | -9.059E+15      |
| 1D+0.5L    |          |           | -3.991E-03  | 0.00    | 0.00    | 0.00    | 2.919E+17       | -1.092E+16      |
| COMB1      | Max      |           | 9.631E+10   | 0.00    | 0.00    | 0.00    | 178901523.5     | 218047616.2     |
| COMB1      | Min      |           | -9.631E+10  | 0.00    | 0.00    | 0.00    | -178901523      | -218047616      |
| COMB2      | Max      |           | 2.556E+10   | 0.00    | 0.00    | 0.00    | 508574602.      | 512983460.      |
| COMB2      | Min      |           | -2.556E+10  | 0.00    | 0.00    | 0.00    | -508574602      | -512983460      |
| ENVELOPE   | Max      |           | 9.631E+10   | 0.00    | 0.00    | 0.00    | 3.870E+17       | -9.059E+15      |
| ENVELOPE   | Min      |           | -9.631E+10  | 0.00    | 0.00    | 0.00    | 2.488E+17       | -1.482E+16      |

**Table: Base Reactions, Part 3 of 4**

| Table: Base Reactions, Part 3 of 4 |          |           |                       |                       |                       |                       |                       |                       |
|------------------------------------|----------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| OutputCase                         | StepType | StepNum   | ZCentroidF<br>X<br>mm | XCentroidF<br>Y<br>mm | YCentroidF<br>Y<br>mm | ZCentroidF<br>Y<br>mm | XCentroidF<br>Z<br>mm | YCentroidF<br>Z<br>mm |
| DEAD                               |          |           | 0.00                  | 1.524E+16             | -4.496E+17            | 0.00                  | 435.88                | -23562.15             |
| MODAL                              | Mode     | 1.000000  | 0.00                  | 341235.32             | 34265.73              | 0.00                  | 95861362.27           | -1955972.84           |
| MODAL                              | Mode     | 2.000000  | 0.00                  | 298400.65             | -14785.95             | 0.00                  | 59074344.92           | 6043102.29            |
| MODAL                              | Mode     | 3.000000  | 0.00                  | -328.18               | -23909.36             | 0.00                  | 146597.28             | -99906686.            |
| MODAL                              | Mode     | 4.000000  | 0.00                  | 128767.75             | -10843.40             | 0.00                  | -1628990.72           | -126959.93            |
| MODAL                              | Mode     | 5.000000  | 0.00                  | 144803.42             | -19749.61             | 0.00                  | -2568205.75           | -177115.66            |
| MODAL                              | Mode     | 6.000000  | 0.00                  | -1444.40              | -24177.91             | 0.00                  | 41762.82              | 2743799.02            |
| MODAL                              | Mode     | 7.000000  | 0.00                  | 69353.83              | -15388.90             | 0.00                  | 3598013.98            | -351574.20            |
| MODAL                              | Mode     | 8.000000  | 0.00                  | 142814.22             | -17591.51             | 0.00                  | 731507.62             | 172220.99             |
| MODAL                              | Mode     | 9.000000  | 0.00                  | -1617.47              | -24473.80             | 0.00                  | -302945.88            | -3238214.19           |
| MODAL                              | Mode     | 10.000000 | 0.00                  | -3096.56              | -24856.76             | 0.00                  | -328361.85            | 607452.17             |
| MODAL                              | Mode     | 11.000000 | 0.00                  | -3392.37              | -25781.25             | 0.00                  | -126419.35            | 47732.85              |
| MODAL                              | Mode     | 12.000000 | 0.00                  | 67156.58              | -15016.61             | 0.00                  | -292233.09            | -77444.30             |
| MODAL                              | Mode     | 13.000000 | 0.00                  | 121427.70             | -13214.77             | 0.00                  | -947668.87            | -134199.09            |
| MODAL                              | Mode     | 14.000000 | 0.00                  | -714855.51            | 52104.38              | 0.00                  | 8834.25               | -38010.79             |
| MODAL                              | Mode     | 15.000000 | 0.00                  | -15040.21             | -28109.79             | 0.00                  | -285141.09            | 41986.03              |
| MODAL                              | Mode     | 16.000000 | 0.00                  | 15322.90              | -22246.14             | 0.00                  | 461985.90             | -167950.60            |
| MODAL                              | Mode     | 17.000000 | 0.00                  | -2227.31              | -24591.63             | 0.00                  | -114148.93            | -616966.49            |
| MODAL                              | Mode     | 18.000000 | 0.00                  | 142169.99             | -4913.01              | 0.00                  | 46191.53              | -18571.76             |
| MODAL                              | Mode     | 19.000000 | 0.00                  | 114781.04             | 64692.26              | 0.00                  | -5003.89              | -42522.45             |
| MODAL                              | Mode     | 20.000000 | 0.00                  | -8320.93              | -29858.64             | 0.00                  | -1823.04              | -44299.17             |
| MODAL                              | Mode     | 21.000000 | 0.00                  | 98324.90              | 32740.05              | 0.00                  | -19295.83             | -17918.30             |
| MODAL                              | Mode     | 22.000000 | 0.00                  | -20582.46             | -36876.43             | 0.00                  | -21699.89             | -39714.59             |
| MODAL                              | Mode     | 23.000000 | 0.00                  | 11958.76              | -13227.07             | 0.00                  | -1363.03              | -8886.61              |
| MODAL                              | Mode     | 24.000000 | 0.00                  | -31467.55             | -33199.51             | 0.00                  | 7675.38               | -21587.69             |
| MODAL                              | Mode     | 25.000000 | 0.00                  | -29164.02             | -34990.05             | 0.00                  | -10690.83             | -49910.35             |
| MODAL                              | Mode     | 26.000000 | 0.00                  | -30087.80             | -34886.37             | 0.00                  | 183754.41             | -17200.93             |
| MODAL                              | Mode     | 27.000000 | 0.00                  | 79173.17              | 40758.92              | 0.00                  | -46524.67             | -58839.88             |
| MODAL                              | Mode     | 28.000000 | 0.00                  | 94769.86              | 48306.60              | 0.00                  | -9792.02              | -32668.47             |
| MODAL                              | Mode     | 29.000000 | 0.00                  | 31090.63              | -4182.06              | 0.00                  | 11379.96              | -19173.47             |
| MODAL                              | Mode     | 30.000000 | 0.00                  | 27894.64              | -21253.70             | 0.00                  | -14614.01             | -26944.11             |
| MODAL                              | Mode     | 31.000000 | 0.00                  | 21845.56              | -5605.43              | 0.00                  | -22298.13             | -38737.10             |
| MODAL                              | Mode     | 32.000000 | 0.00                  | -3966.55              | -30033.25             | 0.00                  | 19125.62              | -39803.01             |
| MODAL                              | Mode     | 33.000000 | 0.00                  | 813.10                | -23234.67             | 0.00                  | 27494.06              | -1138.24              |
| MODAL                              | Mode     | 34.000000 | 0.00                  | -8712.97              | -23314.11             | 0.00                  | 3043.47               | -42951.20             |
| MODAL                              | Mode     | 35.000000 | 0.00                  | -9419.92              | -16374.95             | 0.00                  | 45232.30              | -12612.27             |
| MODAL                              | Mode     | 36.000000 | 0.00                  | 54221.24              | -15897.38             | 0.00                  | -13958.72             | -37666.68             |
| MODAL                              | Mode     | 37.000000 | 0.00                  | 22792.97              | -22048.07             | 0.00                  | 73259.73              | -19857.69             |
| MODAL                              | Mode     | 38.000000 | 0.00                  | 55111.15              | -12726.76             | 0.00                  | 4006.76               | -22538.09             |
| MODAL                              | Mode     | 39.000000 | 0.00                  | 18798.22              | -22464.53             | 0.00                  | -3002.55              | -21940.73             |
| MODAL                              | Mode     | 40.000000 | 0.00                  | -7912.58              | -21750.80             | 0.00                  | 19183.19              | -34819.82             |
| MODAL                              | Mode     | 41.000000 | 0.00                  | -3143.09              | -24852.87             | 0.00                  | -2119.12              | -41066.54             |
| MODAL                              | Mode     | 42.000000 | 0.00                  | -2646.61              | -22067.42             | 0.00                  | -28018.09             | -8064.50              |
| MODAL                              | Mode     | 43.000000 | 0.00                  | -1894.79              | -23210.68             | 0.00                  | -2314.04              | -36728.20             |
| MODAL                              | Mode     | 44.000000 | 0.00                  | 5196.69               | -27675.75             | 0.00                  | -4882.90              | -4401.26              |
| MODAL                              | Mode     | 45.000000 | 0.00                  | 39367.85              | -44300.68             | 0.00                  | -5229.92              | -14026.07             |
| MODAL                              | Mode     | 46.000000 | 0.00                  | 100484.33             | 32071.66              | 0.00                  | -30087.33             | -45701.63             |
| MODAL                              | Mode     | 47.000000 | 0.00                  | -98415.60             | 50700.37              | 0.00                  | -68328.56             | 8640.62               |
| MODAL                              | Mode     | 48.000000 | 0.00                  | 3617.42               | -9486.20              | 0.00                  | 103880.71             | -93292.18             |
| MODAL                              | Mode     | 49.000000 | 0.00                  | 68754.62              | -69156.21             | 0.00                  | -20308.09             | -13703.58             |
| MODAL                              | Mode     | 50.000000 | 0.00                  | -176198.88            | 110732.94             | 0.00                  | -28298.85             | -10240.03             |
| LIVE                               |          |           | 0.00                  | -1.566E+15            | 1.709E+16             | 0.00                  | 415.68                | -23988.33             |

Table: Base Reactions, Part 3 of 4

| OutputCase | StepType | StepNum | ZCentroidF<br>X<br>mm | XCentroidF<br>Y<br>mm | YCentroidF<br>Y<br>mm | ZCentroidF<br>Y<br>mm | XCentroidF<br>Z<br>mm | YCentroidF<br>Z<br>mm |
|------------|----------|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| D++        |          |         | 0.00                  | -1.561E+15            | 1.718E+16             | 0.00                  | 415.68                | -23988.33             |
| QUAKE X    | Max      |         | 0.00                  | 924699637.            | 130545816.0           | 0.00                  | 2.723E+11             | 9.387E+10             |
| QUAKE Y    | Max      |         | 0.00                  | 285421435.5           | 84627606.02           | 0.00                  | 8.314E+10             | 3.092E+11             |
| 1.4D       |          |         | 0.00                  | 1.915E+16             | -6.054E+17            | 0.00                  | 1192.17               | -66570.67             |
| 1.2D+1.6L  |          |         | 0.00                  | 1.391E+16             | -4.916E+17            | 0.00                  | 1686.95               | -95441.90             |
| 1.2D+1L+1E | Max      |         | 0.00                  | 1.485E+16             | -5.018E+17            | 0.00                  | 5.805E+11             | 2.001E+11             |
| 1.2D+1L+1E | Min      |         | 0.00                  | 1.485E+16             | -5.018E+17            | 0.00                  | -5.805E+11            | -2.001E+11            |
| 0.9D+1E    | Max      |         | 0.00                  | 1.231E+16             | -3.892E+17            | 0.00                  | 5.805E+11             | 2.001E+11             |
| 0.9D+1E    | Min      |         | 0.00                  | 1.231E+16             | -3.892E+17            | 0.00                  | -5.805E+11            | -2.001E+11            |
| 1.2D+1L+1E | Max      |         | 0.00                  | 1.485E+16             | -5.018E+17            | 0.00                  | 1.513E+11             | 5.628E+11             |
| y          |          |         |                       |                       |                       |                       |                       |                       |
| 1.2D+1L+1E | Min      |         | 0.00                  | 1.485E+16             | -5.018E+17            | 0.00                  | -1.513E+11            | -5.628E+11            |
| y          |          |         |                       |                       |                       |                       |                       |                       |
| 0.9D+1Ey   | Max      |         | 0.00                  | 1.231E+16             | -3.892E+17            | 0.00                  | 1.513E+11             | 5.628E+11             |
| 0.9D+1Ey   | Min      |         | 0.00                  | 1.231E+16             | -3.892E+17            | 0.00                  | -1.513E+11            | -5.628E+11            |
| 1D+0.5L    |          |         | 0.00                  | 1.289E+16             | -4.239E+17            | 0.00                  | 1059.39               | -59544.64             |
| COMB1      | Max      |         | 0.00                  | 1971459625            | 278323679.7           | 0.00                  | 5.805E+11             | 2.001E+11             |
| COMB1      | Min      |         | 0.00                  | -1971459625           | -278323680            | 0.00                  | -5.805E+11            | -2.001E+11            |
| COMB2      | Max      |         | 0.00                  | 519467013.            | 154022242.9           | 0.00                  | 1.513E+11             | 5.628E+11             |
| COMB2      | Min      |         | 0.00                  | -519467013            | -154022243            | 0.00                  | -1.513E+11            | -5.628E+11            |
| ENVELOPE   | Max      |         | 0.00                  | 1.915E+16             | -3.892E+17            | 0.00                  | 5.805E+11             | 5.628E+11             |
| ENVELOPE   | Min      |         | 0.00                  | 1.231E+16             | -6.054E+17            | 0.00                  | -5.805E+11            | -5.628E+11            |

Table: Base Reactions, Part 4 of 4

Table: Base Reactions, Part 4 of 4

| OutputCase | StepType | StepNum   | ZCentroidFZ<br>mm |
|------------|----------|-----------|-------------------|
| DEAD       |          |           | 0.00              |
| MODAL      | Mode     | 1.000000  | 0.00              |
| MODAL      | Mode     | 2.000000  | 0.00              |
| MODAL      | Mode     | 3.000000  | 0.00              |
| MODAL      | Mode     | 4.000000  | 0.00              |
| MODAL      | Mode     | 5.000000  | 0.00              |
| MODAL      | Mode     | 6.000000  | 0.00              |
| MODAL      | Mode     | 7.000000  | 0.00              |
| MODAL      | Mode     | 8.000000  | 0.00              |
| MODAL      | Mode     | 9.000000  | 0.00              |
| MODAL      | Mode     | 10.000000 | 0.00              |
| MODAL      | Mode     | 11.000000 | 0.00              |
| MODAL      | Mode     | 12.000000 | 0.00              |
| MODAL      | Mode     | 13.000000 | 0.00              |
| MODAL      | Mode     | 14.000000 | 0.00              |
| MODAL      | Mode     | 15.000000 | 0.00              |
| MODAL      | Mode     | 16.000000 | 0.00              |
| MODAL      | Mode     | 17.000000 | 0.00              |
| MODAL      | Mode     | 18.000000 | 0.00              |
| MODAL      | Mode     | 19.000000 | 0.00              |
| MODAL      | Mode     | 20.000000 | 0.00              |
| MODAL      | Mode     | 21.000000 | 0.00              |
| MODAL      | Mode     | 22.000000 | 0.00              |
| MODAL      | Mode     | 23.000000 | 0.00              |
| MODAL      | Mode     | 24.000000 | 0.00              |

Table: Base Reactions, Part 4 of 4

| OutputCase | StepType | StepNum   | ZCentroidFZ<br>mm |
|------------|----------|-----------|-------------------|
| MODAL      | Mode     | 25.000000 | 0.00              |
| MODAL      | Mode     | 26.000000 | 0.00              |
| MODAL      | Mode     | 27.000000 | 0.00              |
| MODAL      | Mode     | 28.000000 | 0.00              |
| MODAL      | Mode     | 29.000000 | 0.00              |
| MODAL      | Mode     | 30.000000 | 0.00              |
| MODAL      | Mode     | 31.000000 | 0.00              |
| MODAL      | Mode     | 32.000000 | 0.00              |
| MODAL      | Mode     | 33.000000 | 0.00              |
| MODAL      | Mode     | 34.000000 | 0.00              |
| MODAL      | Mode     | 35.000000 | 0.00              |
| MODAL      | Mode     | 36.000000 | 0.00              |
| MODAL      | Mode     | 37.000000 | 0.00              |
| MODAL      | Mode     | 38.000000 | 0.00              |
| MODAL      | Mode     | 39.000000 | 0.00              |
| MODAL      | Mode     | 40.000000 | 0.00              |
| MODAL      | Mode     | 41.000000 | 0.00              |
| MODAL      | Mode     | 42.000000 | 0.00              |
| MODAL      | Mode     | 43.000000 | 0.00              |
| MODAL      | Mode     | 44.000000 | 0.00              |
| MODAL      | Mode     | 45.000000 | 0.00              |
| MODAL      | Mode     | 46.000000 | 0.00              |
| MODAL      | Mode     | 47.000000 | 0.00              |
| MODAL      | Mode     | 48.000000 | 0.00              |
| MODAL      | Mode     | 49.000000 | 0.00              |
| MODAL      | Mode     | 50.000000 | 0.00              |
| LIVE       |          |           | 0.00              |
| D++        |          |           | 0.00              |
| QUAKE X    | Max      |           | 0.00              |
| QUAKE Y    | Max      |           | 0.00              |
| 1.4D       |          |           | 0.00              |
| 1.2D+1.6L  |          |           | 0.00              |
| 1.2D+1L+1E | Max      |           | 0.00              |
| 1.2D+1L+1E | Min      |           | 0.00              |
| 0.9D+1E    | Max      |           | 0.00              |
| 0.9D+1E    | Min      |           | 0.00              |
| 1.2D+1L+1E | Max      |           | 0.00              |
| y          |          |           |                   |
| 1.2D+1L+1E | Min      |           | 0.00              |
| y          |          |           |                   |
| 0.9D+1Ey   | Max      |           | 0.00              |
| 0.9D+1Ey   | Min      |           | 0.00              |
| 1D+0.5L    |          |           | 0.00              |
| COMB1      | Max      |           | 0.00              |
| COMB1      | Min      |           | 0.00              |
| COMB2      | Max      |           | 0.00              |
| COMB2      | Min      |           | 0.00              |
| ENVELOPE   | Max      |           | 0.00              |
| ENVELOPE   | Min      |           | 0.00              |

# Force Based Design Output

**Table: Joint Displacements, Part 1 of 2**

| Table: Joint Displacements, Part 1 of 2 |            |             |          |          |          |          |               |               |
|---|------------|-------------|----------|----------|----------|----------|---------------|---------------|
| Joint                                   | OutputCase | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
| 1                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 1                                       | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 2                                       | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 3                                       | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 4                                       | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|----------|----------|----------|---------------|---------------|
| 4     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 5     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 5     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 5     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 6     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 6     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 6     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 7     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 7     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 7     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 0.9D+1E    | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 0.9D+1E    | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 8     | 1.2D+1L+1E | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
|       | y          |             |          |          |          |          |               |               |
| 8     | 0.9D+1Ey   | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 0.9D+1Ey   | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 8     | 1D+0.5L    | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.4D       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1.6L  | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1L+1E | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|----------|----------|----------|---------------|---------------|
| 9     | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 9     | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 10    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 11    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 12    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm | U2<br>mm | U3<br>mm | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|----------|----------|----------|---------------|---------------|
| 13    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 13    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 14    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 15    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1Ey        | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 0.9D+1Ey        | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 16    | 1D+0.5L         | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.4D            | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1.6L       | Combination |          | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E      | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E      | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 0.9D+1E         | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 0.9D+1E         | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E<br>y | Combination | Max      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |
| 17    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000 | 0.000000 | 0.000000 | 0.000000      | 0.000000      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm    | U2<br>mm    | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-------------|-------------|-----------|---------------|---------------|
| 17    | 0.9D+1Ey        | Combination | Max      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 17    | 0.9D+1Ey        | Combination | Min      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 17    | 1D+0.5L         | Combination |          | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.4D            | Combination |          | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1.6L       | Combination |          | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E      | Combination | Max      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E      | Combination | Min      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1E         | Combination | Max      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1E         | Combination | Min      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E      | Combination | Max      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1.2D+1L+1E<br>y | Combination | Min      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1Ey        | Combination | Max      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 0.9D+1Ey        | Combination | Min      | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 18    | 1D+0.5L         | Combination |          | 0.000000    | 0.000000    | 0.000000  | 0.000000      | 0.000000      |
| 524   | 1.4D            | Combination |          | 0.498433    | -0.013382   | -2.011444 | 2.053E-06     | 0.000018      |
| 524   | 1.2D+1.6L       | Combination |          | 0.665980    | 0.003402    | -2.057965 | 9.207E-07     | 0.000025      |
| 524   | 1.2D+1L+1E      | Combination | Max      | 37.359475   | 15.007400   | -1.423917 | 0.000711      | 0.001683      |
| 524   | 1.2D+1L+1E      | Combination | Min      | -36.206578  | -15.011750  | -2.441610 | -0.000708     | -0.001639     |
| 524   | 0.9D+1E         | Combination | Max      | 37.103448   | 15.000972   | -0.784225 | 0.000711      | 0.001673      |
| 524   | 0.9D+1E         | Combination | Min      | -36.462605  | -15.018177  | -1.801918 | -0.000708     | -0.001649     |
| 524   | 1.2D+1L+1E      | Combination | Max      | 10.205964   | 27.031308   | -1.341449 | 0.001324      | 0.000454      |
| 524   | 1.2D+1L+1E<br>y | Combination | Min      | -9.053067   | -27.035658  | -2.524078 | -0.001322     | -0.000410     |
| 524   | 0.9D+1Ey        | Combination | Max      | 9.949937    | 27.024880   | -0.701757 | 0.001324      | 0.000444      |
| 524   | 0.9D+1Ey        | Combination | Min      | -9.309094   | -27.042086  | -1.884386 | -0.001322     | -0.000421     |
| 524   | 1D+0.5L         | Combination |          | 0.430634    | -0.004911   | -1.541080 | 1.204E-06     | 0.000016      |
| 590   | 1.4D            | Combination |          | 0.491049    | -0.089326   | -0.680471 | 2.641E-06     | 0.000018      |
| 590   | 1.2D+1.6L       | Combination |          | 0.653658    | -0.105620   | -0.734729 | 4.677E-06     | 0.000025      |
| 590   | 1.2D+1L+1E      | Combination | Max      | 42.262805   | 13.183862   | -0.635441 | 0.000536      | 0.001646      |
| 590   | 1.2D+1L+1E      | Combination | Min      | -41.130058  | -13.373312  | -0.720415 | -0.000528     | -0.001604     |
| 590   | 0.9D+1E         | Combination | Max      | 42.012106   | 13.221163   | -0.394959 | 0.000534      | 0.001637      |
| 590   | 0.9D+1E         | Combination | Min      | -41.380757  | -13.336011  | -0.479933 | -0.000530     | -0.001613     |
| 590   | 1.2D+1L+1E      | Combination | Max      | 11.361621   | 30.827888   | -0.578551 | 0.001267      | 0.000441      |
| 590   | 1.2D+1L+1E<br>y | Combination | Min      | -10.228873  | -31.017338  | -0.777305 | -0.001260     | -0.000398     |
| 590   | 0.9D+1Ey        | Combination | Max      | 11.110922   | 30.865189   | -0.338069 | 0.001265      | 0.000431      |
| 590   | 0.9D+1Ey        | Combination | Min      | -10.479572  | -30.980037  | -0.536823 | -0.001262     | -0.000408     |
| 590   | 1D+0.5L         | Combination |          | 0.423487    | -0.072884   | -0.533384 | 2.641E-06     | 0.000016      |
| 1572  | 1.4D            | Combination |          | 1.824072    | -1.623364   | -3.230422 | 0.000048      | 7.285E-06     |
| 1572  | 1.2D+1.6L       | Combination |          | 2.510555    | -2.077070   | -3.407406 | 0.000060      | 0.000011      |
| 1572  | 1.2D+1L+1E      | Combination | Max      | 117.892189  | 35.584117   | -1.037890 | 0.000503      | 0.001158      |
| 1572  | 1.2D+1L+1E      | Combination | Min      | -113.581377 | -39.224046  | -5.298067 | -0.000397     | -0.001139     |
| 1572  | 0.9D+1E         | Combination | Max      | 116.909401  | 36.360490   | 0.053389  | 0.000481      | 0.001153      |
| 1572  | 0.9D+1E         | Combination | Min      | -114.564165 | -38.447672  | -4.206788 | -0.000419     | -0.001144     |
| 1572  | 1.2D+1L+1E      | Combination | Max      | 32.050192   | 99.693146   | -1.201469 | 0.001281      | 0.000315      |
| 1572  | 1.2D+1L+1E<br>y | Combination | Min      | -27.739380  | -103.333075 | -5.134489 | -0.001175     | -0.000296     |
| 1572  | 0.9D+1Ey        | Combination | Max      | 31.067404   | 100.469519  | -0.110189 | 0.001259      | 0.000310      |
| 1572  | 0.9D+1Ey        | Combination | Min      | -28.722168  | -102.556701 | -4.043210 | -0.001198     | -0.000301     |
| 1572  | 1D+0.5L         | Combination |          | 1.598867    | -1.373800   | -2.506967 | 0.000040      | 6.702E-06     |
| 1594  | 1.4D            | Combination |          | -0.002849   | 0.028984    | -0.166416 | -6.663E-06    | 0.000017      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1594  | 1.2D+1.6L       | Combination |          | -0.002689 | 0.025667  | -0.157167 | -5.409E-06    | 0.000024      |
| 1594  | 1.2D+1L+1E      | Combination | Max      | 0.867463  | 0.361287  | 0.277582  | 0.000175      | 0.000530      |
| 1594  | 1.2D+1L+1E      | Combination | Min      | -0.872655 | -0.310570 | -0.581022 | -0.000186     | -0.000489     |
| 1594  | 0.9D+1E         | Combination | Max      | 0.868228  | 0.354561  | 0.322320  | 0.000176      | 0.000520      |
| 1594  | 0.9D+1E         | Combination | Min      | -0.871890 | -0.317296 | -0.536284 | -0.000184     | -0.000499     |
| 1594  | 1.2D+1L+1E<br>y | Combination | Max      | 0.224906  | 0.580121  | 0.559902  | 0.000275      | 0.000153      |
| 1594  | 1.2D+1L+1E<br>y | Combination | Min      | -0.230099 | -0.529405 | -0.863342 | -0.000286     | -0.000112     |
| 1594  | 0.9D+1Ey        | Combination | Max      | 0.225671  | 0.573396  | 0.604640  | 0.000276      | 0.000144      |
| 1594  | 0.9D+1Ey        | Combination | Min      | -0.229334 | -0.536131 | -0.818604 | -0.000284     | -0.000122     |
| 1594  | 1D+0.5L         | Combination |          | -0.002112 | 0.020960  | -0.123408 | -4.665E-06    | 0.000015      |
| 1595  | 1.4D            | Combination |          | -0.039068 | -0.037559 | -0.172011 | 8.346E-06     | -0.000014     |
| 1595  | 1.2D+1.6L       | Combination |          | -0.037628 | -0.037893 | -0.166321 | 9.560E-06     | -0.000013     |
| 1595  | 1.2D+1L+1E      | Combination | Max      | 0.736343  | 0.324805  | 0.463132  | 0.000210      | 0.000431      |
| 1595  | 1.2D+1L+1E      | Combination | Min      | -0.808494 | -0.396316 | -0.781611 | -0.000193     | -0.000457     |
| 1595  | 0.9D+1E         | Combination | Max      | 0.747303  | 0.336416  | 0.511793  | 0.000207      | 0.000435      |
| 1595  | 0.9D+1E         | Combination | Min      | -0.797534 | -0.384706 | -0.732950 | -0.000196     | -0.000453     |
| 1595  | 1.2D+1L+1E<br>y | Combination | Max      | 0.173040  | 0.462002  | 0.254305  | 0.000276      | 0.000107      |
| 1595  | 1.2D+1L+1E<br>y | Combination | Min      | -0.245190 | -0.533513 | -0.572784 | -0.000259     | -0.000133     |
| 1595  | 0.9D+1Ey        | Combination | Max      | 0.184000  | 0.473612  | 0.302966  | 0.000273      | 0.000111      |
| 1595  | 0.9D+1Ey        | Combination | Min      | -0.234230 | -0.521902 | -0.524123 | -0.000262     | -0.000129     |
| 1595  | 1D+0.5L         | Combination |          | -0.029200 | -0.028609 | -0.128766 | 6.714E-06     | -0.000011     |
| 1596  | 1.4D            | Combination |          | 0.030469  | 0.006551  | -0.173249 | -0.000023     | 0.000014      |
| 1596  | 1.2D+1.6L       | Combination |          | 0.030064  | 0.004372  | -0.169658 | -0.000032     | 0.000015      |
| 1596  | 1.2D+1L+1E      | Combination | Max      | 0.910507  | 0.283631  | 0.962351  | 0.000139      | 0.000493      |
| 1596  | 1.2D+1L+1E      | Combination | Min      | -0.853340 | -0.273955 | -1.285798 | -0.000194     | -0.000466     |
| 1596  | 0.9D+1E         | Combination | Max      | 0.901511  | 0.283004  | 1.012700  | 0.000152      | 0.000489      |
| 1596  | 0.9D+1E         | Combination | Min      | -0.862337 | -0.274582 | -1.235449 | -0.000182     | -0.000470     |
| 1596  | 1.2D+1L+1E<br>y | Combination | Max      | 0.270196  | 0.524113  | 0.272441  | 0.000283      | 0.000140      |
| 1596  | 1.2D+1L+1E<br>y | Combination | Min      | -0.213029 | -0.514436 | -0.595888 | -0.000338     | -0.000112     |
| 1596  | 0.9D+1Ey        | Combination | Max      | 0.261200  | 0.523486  | 0.322790  | 0.000296      | 0.000135      |
| 1596  | 0.9D+1Ey        | Combination | Min      | -0.222026 | -0.515064 | -0.545539 | -0.000325     | -0.000117     |
| 1596  | 1D+0.5L         | Combination |          | 0.022997  | 0.004291  | -0.130361 | -0.000020     | 0.000011      |
| 1597  | 1.4D            | Combination |          | -0.019566 | 0.034249  | -0.203108 | -6.994E-06    | -3.927E-06    |
| 1597  | 1.2D+1.6L       | Combination |          | -0.019495 | 0.033789  | -0.204415 | -6.574E-06    | -4.024E-06    |
| 1597  | 1.2D+1L+1E      | Combination | Max      | 0.823266  | 0.230333  | 0.137328  | 0.000094      | 0.000505      |
| 1597  | 1.2D+1L+1E      | Combination | Min      | -0.860213 | -0.166080 | -0.523416 | -0.000107     | -0.000513     |
| 1597  | 0.9D+1E         | Combination | Max      | 0.829161  | 0.220224  | 0.199803  | 0.000096      | 0.000506      |
| 1597  | 0.9D+1E         | Combination | Min      | -0.854318 | -0.176190 | -0.460942 | -0.000105     | -0.000512     |
| 1597  | 1.2D+1L+1E<br>y | Combination | Max      | 0.206210  | 0.584064  | 0.352793  | 0.000274      | 0.000130      |
| 1597  | 1.2D+1L+1E<br>y | Combination | Min      | -0.243157 | -0.519811 | -0.738881 | -0.000287     | -0.000137     |
| 1597  | 0.9D+1Ey        | Combination | Max      | 0.212105  | 0.573955  | 0.415267  | 0.000276      | 0.000131      |
| 1597  | 0.9D+1Ey        | Combination | Min      | -0.237262 | -0.529920 | -0.676406 | -0.000285     | -0.000136     |
| 1597  | 1D+0.5L         | Combination |          | -0.014827 | 0.025849  | -0.154553 | -5.177E-06    | -3.011E-06    |
| 1598  | 1.4D            | Combination |          | 0.019425  | 0.001511  | -0.203935 | -0.000040     | 3.986E-06     |
| 1598  | 1.2D+1.6L       | Combination |          | 0.019849  | 0.000778  | -0.206193 | -0.000050     | 4.600E-06     |
| 1598  | 1.2D+1L+1E      | Combination | Max      | 0.908582  | 0.184818  | 0.605241  | 0.000049      | 0.000514      |
| 1598  | 1.2D+1L+1E      | Combination | Min      | -0.871283 | -0.182874 | -0.994083 | -0.000137     | -0.000505     |
| 1598  | 0.9D+1E         | Combination | Max      | 0.902420  | 0.184817  | 0.668561  | 0.000067      | 0.000512      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1598  | 0.9D+1E    | Combination | Min      | -0.877446 | -0.182875 | -0.930763 | -0.000118     | -0.000507     |
| 1598  | 1.2D+1L+1E | Combination | Max      | 0.254277  | 0.522799  | 0.334942  | 0.000215      | 0.000137      |
|       | y          |             |          |           |           |           |               |               |
| 1598  | 1.2D+1L+1E | Combination | Min      | -0.216978 | -0.520855 | -0.723784 | -0.000303     | -0.000128     |
|       | y          |             |          |           |           |           |               |               |
| 1598  | 0.9D+1Ey   | Combination | Max      | 0.248115  | 0.522798  | 0.398262  | 0.000234      | 0.000135      |
| 1598  | 0.9D+1Ey   | Combination | Min      | -0.223140 | -0.520856 | -0.660464 | -0.000285     | -0.000130     |
| 1598  | 1D+0.5L    | Combination |          | 0.014875  | 0.000918  | -0.155478 | -0.000033     | 3.217E-06     |
| 1599  | 1.4D       | Combination |          | -0.019863 | -0.035590 | -0.208385 | 4.673E-06     | -3.501E-06    |
| 1599  | 1.2D+1.6L  | Combination |          | -0.019692 | -0.036757 | -0.211349 | 4.654E-06     | -3.299E-06    |
| 1599  | 1.2D+1L+1E | Combination | Max      | 0.801130  | 0.171852  | 0.164736  | 0.000112      | 0.000486      |
| 1599  | 1.2D+1L+1E | Combination | Min      | -0.838514 | -0.240677 | -0.562884 | -0.000103     | -0.000493     |
| 1599  | 0.9D+1E    | Combination | Max      | 0.807053  | 0.183385  | 0.229848  | 0.000110      | 0.000487      |
| 1599  | 0.9D+1E    | Combination | Min      | -0.832592 | -0.229143 | -0.497772 | -0.000104     | -0.000492     |
| 1599  | 1.2D+1L+1E | Combination | Max      | 0.195778  | 0.516216  | 0.333328  | 0.000286      | 0.000124      |
|       | y          |             |          |           |           |           |               |               |
| 1599  | 1.2D+1L+1E | Combination | Min      | -0.233162 | -0.585041 | -0.731476 | -0.000278     | -0.000130     |
|       | y          |             |          |           |           |           |               |               |
| 1599  | 0.9D+1Ey   | Combination | Max      | 0.201701  | 0.527750  | 0.398440  | 0.000285      | 0.000125      |
| 1599  | 0.9D+1Ey   | Combination | Min      | -0.227239 | -0.573508 | -0.666364 | -0.000279     | -0.000129     |
| 1599  | 1D+0.5L    | Combination |          | -0.015021 | -0.027375 | -0.159076 | 3.541E-06     | -2.594E-06    |
| 1600  | 1.4D       | Combination |          | 0.016778  | -0.004813 | -0.209940 | 0.000038      | 5.168E-06     |
| 1600  | 1.2D+1.6L  | Combination |          | 0.017588  | -0.005490 | -0.214253 | 0.000049      | 6.318E-06     |
| 1600  | 1.2D+1L+1E | Combination | Max      | 0.868088  | 0.180603  | 0.517588  | 0.000137      | 0.000486      |
| 1600  | 1.2D+1L+1E | Combination | Min      | -0.835318 | -0.190560 | -0.920366 | -0.000052     | -0.000475     |
| 1600  | 0.9D+1E    | Combination | Max      | 0.862489  | 0.182488  | 0.584016  | 0.000119      | 0.000484      |
| 1600  | 0.9D+1E    | Combination | Min      | -0.840917 | -0.188676 | -0.853939 | -0.000070     | -0.000477     |
| 1600  | 1.2D+1L+1E | Combination | Max      | 0.242293  | 0.520892  | 0.317426  | 0.000308      | 0.000130      |
|       | y          |             |          |           |           |           |               |               |
| 1600  | 1.2D+1L+1E | Combination | Min      | -0.209523 | -0.530849 | -0.720204 | -0.000223     | -0.000119     |
|       | y          |             |          |           |           |           |               |               |
| 1600  | 0.9D+1Ey   | Combination | Max      | 0.236694  | 0.522776  | 0.383853  | 0.000290      | 0.000128      |
| 1600  | 0.9D+1Ey   | Combination | Min      | -0.215122 | -0.528965 | -0.653776 | -0.000241     | -0.000121     |
| 1600  | 1D+0.5L    | Combination |          | 0.012986  | -0.003864 | -0.160677 | 0.000032      | 4.281E-06     |
| 1601  | 1.4D       | Combination |          | 0.006621  | 0.024995  | -0.199801 | -6.326E-06    | -2.299E-07    |
| 1601  | 1.2D+1.6L  | Combination |          | 0.007314  | 0.025826  | -0.203330 | -6.756E-06    | -1.214E-06    |
| 1601  | 1.2D+1L+1E | Combination | Max      | 0.869423  | 0.406928  | 0.251064  | 0.000194      | 0.000492      |
| 1601  | 1.2D+1L+1E | Combination | Min      | -0.856024 | -0.358577 | -0.633670 | -0.000207     | -0.000494     |
| 1601  | 0.9D+1E    | Combination | Max      | 0.866980  | 0.398820  | 0.313924  | 0.000196      | 0.000493      |
| 1601  | 0.9D+1E    | Combination | Min      | -0.858467 | -0.366684 | -0.570811 | -0.000204     | -0.000493     |
| 1601  | 1.2D+1L+1E | Combination | Max      | 0.230878  | 0.609625  | 0.523972  | 0.000287      | 0.000127      |
|       | y          |             |          |           |           |           |               |               |
| 1601  | 1.2D+1L+1E | Combination | Min      | -0.217479 | -0.561274 | -0.906579 | -0.000299     | -0.000129     |
|       | y          |             |          |           |           |           |               |               |
| 1601  | 0.9D+1Ey   | Combination | Max      | 0.228435  | 0.601518  | 0.586832  | 0.000289      | 0.000128      |
| 1601  | 0.9D+1Ey   | Combination | Min      | -0.219922 | -0.569382 | -0.843719 | -0.000297     | -0.000128     |
| 1601  | 1D+0.5L    | Combination |          | 0.005241  | 0.019229  | -0.152738 | -4.935E-06    | -4.821E-07    |
| 1602  | 1.4D       | Combination |          | 0.046139  | -0.038649 | -0.202161 | 8.691E-06     | 0.000021      |
| 1602  | 1.2D+1.6L  | Combination |          | 0.047341  | -0.038627 | -0.203860 | 9.195E-06     | 0.000022      |
| 1602  | 1.2D+1L+1E | Combination | Max      | 0.818125  | 0.367251  | 0.435836  | 0.000231      | 0.000464      |
| 1602  | 1.2D+1L+1E | Combination | Min      | -0.729288 | -0.440381 | -0.820622 | -0.000214     | -0.000423     |
| 1602  | 0.9D+1E    | Combination | Max      | 0.803367  | 0.378970  | 0.498268  | 0.000228      | 0.000457      |
| 1602  | 0.9D+1E    | Combination | Min      | -0.744046 | -0.428662 | -0.758190 | -0.000217     | -0.000430     |
| 1602  | 1.2D+1L+1E | Combination | Max      | 0.259425  | 0.517484  | 0.288057  | 0.000298      | 0.000144      |
|       | y          |             |          |           |           |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1602  | 1.2D+1L+1E<br>y | Combination | Min      | -0.170589 | -0.590614 | -0.672843 | -0.000281     | -0.000102     |
| 1602  | 0.9D+1Ey        | Combination | Max      | 0.244668  | 0.529203  | 0.350489  | 0.000295      | 0.000137      |
| 1602  | 0.9D+1Ey        | Combination | Min      | -0.185347 | -0.578895 | -0.610411 | -0.000284     | -0.000109     |
| 1602  | 1D+0.5L         | Combination |          | 0.035392  | -0.029325 | -0.153957 | 6.753E-06     | 0.000016      |
| 1603  | 1.4D            | Combination |          | 0.042830  | -0.013656 | -0.214638 | 0.000022      | 0.000022      |
| 1603  | 1.2D+1.6L       | Combination |          | 0.045460  | -0.014275 | -0.220549 | 0.000029      | 0.000024      |
| 1603  | 1.2D+1L+1E      | Combination | Max      | 0.846636  | 0.236638  | 0.894462  | 0.000170      | 0.000453      |
| 1603  | 1.2D+1L+1E      | Combination | Min      | -0.762277 | -0.263261 | -1.308130 | -0.000120     | -0.000410     |
| 1603  | 0.9D+1E         | Combination | Max      | 0.831989  | 0.241171  | 0.963314  | 0.000159      | 0.000446      |
| 1603  | 0.9D+1E         | Combination | Min      | -0.776923 | -0.258729 | -1.239277 | -0.000131     | -0.000418     |
| 1603  | 1.2D+1L+1E<br>y | Combination | Max      | 0.262563  | 0.511020  | 0.216118  | 0.000315      | 0.000135      |
| 1603  | 1.2D+1L+1E<br>y | Combination | Min      | -0.178204 | -0.537643 | -0.629786 | -0.000264     | -0.000091     |
| 1603  | 0.9D+1Ey        | Combination | Max      | 0.247917  | 0.515552  | 0.284971  | 0.000304      | 0.000127      |
| 1603  | 0.9D+1Ey        | Combination | Min      | -0.192850 | -0.533110 | -0.560934 | -0.000275     | -0.000099     |
| 1603  | 1D+0.5L         | Combination |          | 0.033327  | -0.010557 | -0.164742 | 0.000019      | 0.000017      |
| 1604  | 1.4D            | Combination |          | -0.039843 | 0.039582  | -0.207326 | -4.955E-06    | -0.000018     |
| 1604  | 1.2D+1.6L       | Combination |          | -0.038760 | 0.039894  | -0.209175 | -4.347E-06    | -0.000018     |
| 1604  | 1.2D+1L+1E      | Combination | Max      | 0.634375  | 0.309237  | 0.243089  | 0.000145      | 0.000365      |
| 1604  | 1.2D+1L+1E      | Combination | Min      | -0.708438 | -0.233924 | -0.637838 | -0.000153     | -0.000399     |
| 1604  | 0.9D+1E         | Combination | Max      | 0.645794  | 0.297026  | 0.307183  | 0.000146      | 0.000371      |
| 1604  | 0.9D+1E         | Combination | Min      | -0.697020 | -0.246135 | -0.573744 | -0.000152     | -0.000393     |
| 1604  | 1.2D+1L+1E<br>y | Combination | Max      | 0.146444  | 0.544790  | 0.196933  | 0.000269      | 0.000088      |
| 1604  | 1.2D+1L+1E<br>y | Combination | Min      | -0.220507 | -0.469477 | -0.591682 | -0.000278     | -0.000121     |
| 1604  | 0.9D+1Ey        | Combination | Max      | 0.157863  | 0.532579  | 0.261027  | 0.000271      | 0.000093      |
| 1604  | 0.9D+1Ey        | Combination | Min      | -0.209089 | -0.481688 | -0.527589 | -0.000277     | -0.000116     |
| 1604  | 1D+0.5L         | Combination |          | -0.029899 | 0.030138  | -0.157923 | -3.571E-06    | -0.000013     |
| 1605  | 1.4D            | Combination |          | 0.002325  | -0.037930 | -0.226297 | 0.000017      | -0.000060     |
| 1605  | 1.2D+1.6L       | Combination |          | 0.004250  | -0.039134 | -0.233438 | 0.000020      | -0.000081     |
| 1605  | 1.2D+1L+1E      | Combination | Max      | 0.733253  | 0.279335  | 0.312738  | 0.000176      | 0.000246      |
| 1605  | 1.2D+1L+1E      | Combination | Min      | -0.726446 | -0.352636 | -0.750012 | -0.000139     | -0.000386     |
| 1605  | 0.9D+1E         | Combination | Max      | 0.731344  | 0.291602  | 0.385899  | 0.000169      | 0.000277      |
| 1605  | 0.9D+1E         | Combination | Min      | -0.728355 | -0.340369 | -0.676852 | -0.000146     | -0.000355     |
| 1605  | 1.2D+1L+1E<br>y | Combination | Max      | 0.193424  | 0.533516  | 0.578967  | 0.000311      | 0.000014      |
| 1605  | 1.2D+1L+1E<br>y | Combination | Min      | -0.186617 | -0.606817 | -1.016241 | -0.000275     | -0.000155     |
| 1605  | 0.9D+1Ey        | Combination | Max      | 0.191515  | 0.545783  | 0.652127  | 0.000304      | 0.000046      |
| 1605  | 0.9D+1Ey        | Combination | Min      | -0.188526 | -0.594550 | -0.943080 | -0.000282     | -0.000123     |
| 1605  | 1D+0.5L         | Combination |          | 0.002366  | -0.029162 | -0.173975 | 0.000014      | -0.000052     |
| 1606  | 1.4D            | Combination |          | 0.020326  | -0.002949 | -0.194391 | -0.000039     | 6.719E-06     |
| 1606  | 1.2D+1.6L       | Combination |          | 0.022373  | -0.003562 | -0.199094 | -0.000052     | 8.357E-06     |
| 1606  | 1.2D+1L+1E      | Combination | Max      | 0.782753  | 0.180573  | 0.490234  | 0.000048      | 0.000436      |
| 1606  | 1.2D+1L+1E      | Combination | Min      | -0.741719 | -0.186922 | -0.864068 | -0.000138     | -0.000421     |
| 1606  | 0.9D+1E         | Combination | Max      | 0.775303  | 0.181852  | 0.552185  | 0.000068      | 0.000432      |
| 1606  | 0.9D+1E         | Combination | Min      | -0.749169 | -0.185644 | -0.802117 | -0.000118     | -0.000424     |
| 1606  | 1.2D+1L+1E<br>y | Combination | Max      | 0.225960  | 0.518017  | 0.350855  | 0.000219      | 0.000119      |
| 1606  | 1.2D+1L+1E<br>y | Combination | Min      | -0.184926 | -0.524366 | -0.724689 | -0.000308     | -0.000104     |
| 1606  | 0.9D+1Ey        | Combination | Max      | 0.218510  | 0.519296  | 0.412806  | 0.000239      | 0.000115      |
| 1606  | 0.9D+1Ey        | Combination | Min      | -0.192376 | -0.523088 | -0.662738 | -0.000288     | -0.000107     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1606  | 1D+0.5L    | Combination |          | 0.016066  | -0.002430 | -0.148999 | -0.000033     | 5.611E-06     |
| 1607  | 1.4D       | Combination |          | -0.018098 | 0.028303  | -0.188808 | -3.573E-06    | -1.522E-06    |
| 1607  | 1.2D+1.6L  | Combination |          | -0.016709 | 0.028099  | -0.190647 | -3.121E-06    | -4.812E-07    |
| 1607  | 1.2D+1L+1E | Combination | Max      | 0.706552  | 0.228171  | 0.131730  | 0.000099      | 0.000434      |
| 1607  | 1.2D+1L+1E | Combination | Min      | -0.739073 | -0.174853 | -0.491416 | -0.000105     | -0.000436     |
| 1607  | 0.9D+1E    | Combination | Max      | 0.711178  | 0.219707  | 0.190196  | 0.000100      | 0.000434      |
| 1607  | 0.9D+1E    | Combination | Min      | -0.734448 | -0.183317 | -0.432950 | -0.000104     | -0.000436     |
| 1607  | 1.2D+1L+1E | Combination | Max      | 0.175832  | 0.582744  | 0.378259  | 0.000278      | 0.000113      |
|       | y          |             |          |           |           |           |               |               |
| 1607  | 1.2D+1L+1E | Combination | Min      | -0.208353 | -0.529425 | -0.737945 | -0.000284     | -0.000115     |
|       | y          |             |          |           |           |           |               |               |
| 1607  | 0.9D+1Ey   | Combination | Max      | 0.180458  | 0.574280  | 0.436726  | 0.000278      | 0.000113      |
| 1607  | 0.9D+1Ey   | Combination | Min      | -0.203727 | -0.537890 | -0.679479 | -0.000283     | -0.000115     |
| 1607  | 1D+0.5L    | Combination |          | -0.013301 | 0.021416  | -0.143867 | -2.571E-06    | -8.300E-07    |
| 1608  | 1.4D       | Combination |          | -0.009939 | -0.041061 | -0.196055 | 9.550E-06     | 6.348E-07     |
| 1608  | 1.2D+1.6L  | Combination |          | -0.008391 | -0.042267 | -0.199747 | 0.000010      | 1.797E-06     |
| 1608  | 1.2D+1L+1E | Combination | Max      | 0.716288  | 0.163515  | 0.126900  | 0.000112      | 0.000432      |
| 1608  | 1.2D+1L+1E | Combination | Min      | -0.733166 | -0.242745 | -0.502619 | -0.000093     | -0.000429     |
| 1608  | 0.9D+1E    | Combination | Max      | 0.718338  | 0.176734  | 0.188724  | 0.000109      | 0.000431      |
| 1608  | 0.9D+1E    | Combination | Min      | -0.731116 | -0.229527 | -0.440795 | -0.000096     | -0.000430     |
| 1608  | 1.2D+1L+1E | Combination | Max      | 0.184965  | 0.514694  | 0.370008  | 0.000289      | 0.000114      |
|       | y          |             |          |           |           |           |               |               |
| 1608  | 1.2D+1L+1E | Combination | Min      | -0.201843 | -0.593924 | -0.745727 | -0.000271     | -0.000111     |
|       | y          |             |          |           |           |           |               |               |
| 1608  | 0.9D+1Ey   | Combination | Max      | 0.187014  | 0.527913  | 0.431832  | 0.000286      | 0.000113      |
| 1608  | 0.9D+1Ey   | Combination | Min      | -0.199793 | -0.580706 | -0.683903 | -0.000274     | -0.000112     |
| 1608  | 1D+0.5L    | Combination |          | -0.007059 | -0.031539 | -0.149946 | 7.416E-06     | 8.449E-07     |
| 1609  | 1.4D       | Combination |          | 0.024000  | -0.009591 | -0.203289 | 5.493E-06     | 7.280E-06     |
| 1609  | 1.2D+1.6L  | Combination |          | 0.026439  | -0.010205 | -0.210104 | 6.265E-06     | 9.093E-06     |
| 1609  | 1.2D+1L+1E | Combination | Max      | 0.781842  | 0.174790  | 0.474691  | 0.000111      | 0.000434      |
| 1609  | 1.2D+1L+1E | Combination | Min      | -0.733365 | -0.193712 | -0.868007 | -0.000100     | -0.000418     |
| 1609  | 0.9D+1E    | Combination | Max      | 0.773032  | 0.178086  | 0.540663  | 0.000109      | 0.000431      |
| 1609  | 0.9D+1E    | Combination | Min      | -0.742175 | -0.190417 | -0.802035 | -0.000102     | -0.000421     |
| 1609  | 1.2D+1L+1E | Combination | Max      | 0.227456  | 0.512012  | 0.340408  | 0.000301      | 0.000119      |
|       | y          |             |          |           |           |           |               |               |
| 1609  | 1.2D+1L+1E | Combination | Min      | -0.178979 | -0.530934 | -0.733724 | -0.000290     | -0.000103     |
|       | y          |             |          |           |           |           |               |               |
| 1609  | 0.9D+1Ey   | Combination | Max      | 0.218646  | 0.515307  | 0.406381  | 0.000299      | 0.000116      |
| 1609  | 0.9D+1Ey   | Combination | Min      | -0.187789 | -0.527639 | -0.667752 | -0.000292     | -0.000107     |
| 1609  | 1D+0.5L    | Combination |          | 0.018976  | -0.007471 | -0.156412 | 4.410E-06     | 6.092E-06     |
| 1610  | 1.4D       | Combination |          | -0.020322 | 0.004044  | -0.161717 | 0.000017      | -0.000010     |
| 1610  | 1.2D+1.6L  | Combination |          | -0.016583 | 0.004529  | -0.150988 | 0.000024      | -9.059E-06    |
| 1610  | 1.2D+1L+1E | Combination | Max      | 0.788832  | 0.302469  | 0.939324  | 0.000192      | 0.000422      |
| 1610  | 1.2D+1L+1E | Combination | Min      | -0.822625 | -0.294208 | -1.232020 | -0.000151     | -0.000440     |
| 1610  | 0.9D+1E    | Combination | Max      | 0.792665  | 0.300938  | 0.981711  | 0.000183      | 0.000425      |
| 1610  | 0.9D+1E    | Combination | Min      | -0.818793 | -0.295739 | -1.189633 | -0.000161     | -0.000438     |
| 1610  | 1.2D+1L+1E | Combination | Max      | 0.199667  | 0.505941  | 0.243568  | 0.000299      | 0.000103      |
|       | y          |             |          |           |           |           |               |               |
| 1610  | 1.2D+1L+1E | Combination | Min      | -0.233460 | -0.497680 | -0.536263 | -0.000258     | -0.000121     |
|       | y          |             |          |           |           |           |               |               |
| 1610  | 0.9D+1Ey   | Combination | Max      | 0.203499  | 0.504410  | 0.285954  | 0.000290      | 0.000105      |
| 1610  | 0.9D+1Ey   | Combination | Min      | -0.229628 | -0.499211 | -0.493876 | -0.000268     | -0.000119     |
| 1610  | 1D+0.5L    | Combination |          | -0.014255 | 0.003221  | -0.119379 | 0.000015      | -7.509E-06    |
| 1611  | 1.4D       | Combination |          | 0.047947  | 0.036249  | -0.179968 | -8.684E-06    | 0.000020      |
| 1611  | 1.2D+1.6L  | Combination |          | 0.048054  | 0.035461  | -0.172606 | -9.314E-06    | 0.000020      |
| 1611  | 1.2D+1L+1E | Combination | Max      | 0.716683  | 0.355531  | 0.301239  | 0.000168      | 0.000402      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1611  | 1.2D+1L+1E      | Combination | Min      | -0.625793 | -0.287902 | -0.632690 | -0.000185     | -0.000364     |
| 1611  | 0.9D+1E         | Combination | Max      | 0.702061  | 0.345019  | 0.351271  | 0.000171      | 0.000396      |
| 1611  | 0.9D+1E         | Combination | Min      | -0.640415 | -0.298413 | -0.582658 | -0.000182     | -0.000370     |
| 1611  | 1.2D+1L+1E<br>y | Combination | Max      | 0.231655  | 0.512030  | 0.201828  | 0.000256      | 0.000125      |
| 1611  | 1.2D+1L+1E<br>y | Combination | Min      | -0.140765 | -0.444401 | -0.533279 | -0.000273     | -0.000087     |
| 1611  | 0.9D+1Ey        | Combination | Max      | 0.217033  | 0.501518  | 0.251860  | 0.000259      | 0.000119      |
| 1611  | 0.9D+1Ey        | Combination | Min      | -0.155387 | -0.454912 | -0.483248 | -0.000270     | -0.000093     |
| 1611  | 1D+0.5L         | Combination |          | 0.036422  | 0.027264  | -0.134282 | -6.788E-06    | 0.000015      |
| 1612  | 1.4D            | Combination |          | -0.009444 | -0.039508 | -0.179212 | 8.062E-06     | -9.101E-06    |
| 1612  | 1.2D+1.6L       | Combination |          | -0.006048 | -0.036751 | -0.169721 | 7.058E-06     | -9.431E-06    |
| 1612  | 1.2D+1L+1E      | Combination | Max      | 0.720553  | 0.359905  | 0.462231  | 0.000201      | 0.000383      |
| 1612  | 1.2D+1L+1E      | Combination | Min      | -0.734184 | -0.431242 | -0.789590 | -0.000187     | -0.000400     |
| 1612  | 0.9D+1E         | Combination | Max      | 0.721297  | 0.370176  | 0.510703  | 0.000199      | 0.000386      |
| 1612  | 0.9D+1E         | Combination | Min      | -0.733439 | -0.420972 | -0.741118 | -0.000189     | -0.000397     |
| 1612  | 1.2D+1L+1E<br>y | Combination | Max      | 0.182900  | 0.532662  | 0.631261  | 0.000298      | 0.000096      |
| 1612  | 1.2D+1L+1E<br>y | Combination | Min      | -0.196531 | -0.603999 | -0.958620 | -0.000284     | -0.000114     |
| 1612  | 0.9D+1Ey        | Combination | Max      | 0.183645  | 0.542933  | 0.679733  | 0.000296      | 0.000099      |
| 1612  | 0.9D+1Ey        | Combination | Min      | -0.195787 | -0.593728 | -0.910148 | -0.000286     | -0.000111     |
| 1612  | 1D+0.5L         | Combination |          | -0.006106 | -0.029122 | -0.133043 | 5.805E-06     | -7.010E-06    |
| 1613  | 1.4D            | Combination |          | 0.006154  | -0.001407 | -0.575694 | 0.000281      | 0.000072      |
| 1613  | 1.2D+1.6L       | Combination |          | 0.008227  | -0.001583 | -0.688498 | 0.000376      | 0.000085      |
| 1613  | 1.2D+1L+1E      | Combination | Max      | 0.756863  | 0.190219  | -0.487351 | 0.000366      | 0.000229      |
| 1613  | 1.2D+1L+1E      | Combination | Min      | -0.742624 | -0.193102 | -0.743361 | 0.000284      | -0.000076     |
| 1613  | 0.9D+1E         | Combination | Max      | 0.753699  | 0.190756  | -0.242085 | 0.000222      | 0.000199      |
| 1613  | 0.9D+1E         | Combination | Min      | -0.745788 | -0.192565 | -0.498094 | 0.000139      | -0.000106     |
| 1613  | 1.2D+1L+1E<br>y | Combination | Max      | 0.200996  | 0.498353  | -0.439098 | 0.000338      | 0.000130      |
| 1613  | 1.2D+1L+1E<br>y | Combination | Min      | -0.186757 | -0.501237 | -0.791614 | 0.000312      | 0.000023      |
| 1613  | 0.9D+1Ey        | Combination | Max      | 0.197832  | 0.498890  | -0.193831 | 0.000193      | 0.000100      |
| 1613  | 0.9D+1Ey        | Combination | Min      | -0.189920 | -0.500700 | -0.546347 | 0.000168      | -6.913E-06    |
| 1613  | 1D+0.5L         | Combination |          | 0.005318  | -0.001123 | -0.472162 | 0.000243      | 0.000059      |
| 1615  | 1.4D            | Combination |          | 0.002737  | 0.005473  | -0.697460 | -0.000230     | -0.000019     |
| 1615  | 1.2D+1.6L       | Combination |          | 0.002928  | 0.004821  | -0.839175 | -0.000296     | -0.000025     |
| 1615  | 1.2D+1L+1E      | Combination | Max      | 0.882257  | 0.187878  | -0.434054 | -0.000020     | 0.000170      |
| 1615  | 1.2D+1L+1E      | Combination | Min      | -0.876837 | -0.178333 | -1.063281 | -0.000498     | -0.000214     |
| 1615  | 0.9D+1E         | Combination | Max      | 0.881306  | 0.186624  | -0.133754 | 0.000091      | 0.000180      |
| 1615  | 0.9D+1E         | Combination | Min      | -0.877788 | -0.179587 | -0.762981 | -0.000387     | -0.000204     |
| 1615  | 1.2D+1L+1E<br>y | Combination | Max      | 0.231850  | 0.523194  | -0.245526 | -0.000094     | 0.000039      |
| 1615  | 1.2D+1L+1E<br>y | Combination | Min      | -0.226430 | -0.513649 | -1.251809 | -0.000424     | -0.000083     |
| 1615  | 0.9D+1Ey        | Combination | Max      | 0.230899  | 0.521940  | 0.054774  | 0.000017      | 0.000049      |
| 1615  | 0.9D+1Ey        | Combination | Min      | -0.227381 | -0.514903 | -0.951509 | -0.000313     | -0.000074     |
| 1615  | 1D+0.5L         | Combination |          | 0.002137  | 0.003950  | -0.573608 | -0.000195     | -0.000016     |
| 1616  | 1.4D            | Combination |          | 0.000849  | 0.019668  | -0.325276 | 7.217E-06     | 0.000017      |
| 1616  | 1.2D+1.6L       | Combination |          | 0.002594  | 0.012255  | -0.307239 | 8.519E-06     | 0.000023      |
| 1616  | 1.2D+1L+1E      | Combination | Max      | 3.090158  | 1.168980  | 0.497012  | 0.000332      | 0.000896      |
| 1616  | 1.2D+1L+1E      | Combination | Min      | -3.086370 | -1.141018 | -1.090167 | -0.000317     | -0.000857     |
| 1616  | 0.9D+1E         | Combination | Max      | 3.088810  | 1.167643  | 0.584483  | 0.000329      | 0.000887      |
| 1616  | 0.9D+1E         | Combination | Min      | -3.087719 | -1.142355 | -1.002696 | -0.000320     | -0.000866     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1616  | 1.2D+1L+1E<br>y | Combination | Max      | 0.804080  | 1.794488  | 1.019663  | 0.000474      | 0.000247      |
| 1616  | 1.2D+1L+1E<br>y | Combination | Min      | -0.800292 | -1.766526 | -1.612818 | -0.000459     | -0.000208     |
| 1616  | 0.9D+1Ey        | Combination | Max      | 0.802732  | 1.793151  | 1.107134  | 0.000471      | 0.000238      |
| 1616  | 0.9D+1Ey        | Combination | Min      | -0.801640 | -1.767863 | -1.525346 | -0.000462     | -0.000217     |
| 1616  | 1D+0.5L         | Combination |          | 0.001190  | 0.012610  | -0.241225 | 5.884E-06     | 0.000015      |
| 1617  | 1.4D            | Combination |          | -0.027668 | -0.039057 | -0.338215 | 2.523E-06     | 0.000017      |
| 1617  | 1.2D+1.6L       | Combination |          | -0.024445 | -0.043898 | -0.327123 | 4.659E-06     | 0.000018      |
| 1617  | 1.2D+1L+1E      | Combination | Max      | 2.855900  | 1.141106  | 0.817689  | 0.000339      | 0.000870      |
| 1617  | 1.2D+1L+1E      | Combination | Min      | -2.904243 | -1.221086 | -1.444017 | -0.000331     | -0.000836     |
| 1617  | 0.9D+1E         | Combination | Max      | 2.862285  | 1.155988  | 0.913429  | 0.000337      | 0.000864      |
| 1617  | 0.9D+1E         | Combination | Min      | -2.897858 | -1.206204 | -1.348277 | -0.000333     | -0.000841     |
| 1617  | 1.2D+1L+1E<br>y | Combination | Max      | 0.721819  | 1.694701  | 0.471832  | 0.000489      | 0.000238      |
| 1617  | 1.2D+1L+1E<br>y | Combination | Min      | -0.770162 | -1.774681 | -1.098159 | -0.000481     | -0.000205     |
| 1617  | 0.9D+1Ey        | Combination | Max      | 0.728204  | 1.709583  | 0.567572  | 0.000487      | 0.000233      |
| 1617  | 0.9D+1Ey        | Combination | Min      | -0.763777 | -1.759799 | -1.002419 | -0.000483     | -0.000210     |
| 1617  | 1D+0.5L         | Combination |          | -0.019991 | -0.031154 | -0.253215 | 2.582E-06     | 0.000013      |
| 1618  | 1.4D            | Combination |          | 0.026809  | 0.003755  | -0.352541 | -0.000016     | -0.000011     |
| 1618  | 1.2D+1.6L       | Combination |          | 0.028615  | -0.002056 | -0.345184 | -0.000022     | -9.505E-06    |
| 1618  | 1.2D+1L+1E      | Combination | Max      | 2.978716  | 0.997580  | 1.747497  | 0.000265      | 0.000785      |
| 1618  | 1.2D+1L+1E      | Combination | Min      | -2.925713 | -0.997737 | -2.405611 | -0.000303     | -0.000803     |
| 1618  | 0.9D+1E         | Combination | Max      | 2.969448  | 1.000072  | 1.849921  | 0.000273      | 0.000787      |
| 1618  | 0.9D+1E         | Combination | Min      | -2.934980 | -0.995245 | -2.303188 | -0.000294     | -0.000801     |
| 1618  | 1.2D+1L+1E<br>y | Combination | Max      | 0.791411  | 1.778063  | 0.512291  | 0.000493      | 0.000201      |
| 1618  | 1.2D+1L+1E<br>y | Combination | Min      | -0.738408 | -1.778220 | -1.170405 | -0.000531     | -0.000220     |
| 1618  | 0.9D+1Ey        | Combination | Max      | 0.782143  | 1.780555  | 0.614715  | 0.000501      | 0.000203      |
| 1618  | 0.9D+1Ey        | Combination | Min      | -0.747675 | -1.775728 | -1.067982 | -0.000522     | -0.000217     |
| 1618  | 1D+0.5L         | Combination |          | 0.020910  | 0.001034  | -0.265255 | -0.000014     | -7.819E-06    |
| 1619  | 1.4D            | Combination |          | -0.009745 | 0.026182  | -0.400666 | 7.492E-06     | 5.945E-06     |
| 1619  | 1.2D+1.6L       | Combination |          | -0.008239 | 0.023805  | -0.403380 | 8.447E-06     | 6.477E-06     |
| 1619  | 1.2D+1L+1E      | Combination | Max      | 3.071660  | 0.670978  | 0.207820  | 0.000182      | 0.000904      |
| 1619  | 1.2D+1L+1E      | Combination | Min      | -3.088223 | -0.624390 | -0.969616 | -0.000167     | -0.000892     |
| 1619  | 0.9D+1E         | Combination | Max      | 3.073677  | 0.664515  | 0.331147  | 0.000179      | 0.000902      |
| 1619  | 0.9D+1E         | Combination | Min      | -3.086206 | -0.630853 | -0.846289 | -0.000169     | -0.000894     |
| 1619  | 1.2D+1L+1E<br>y | Combination | Max      | 0.793319  | 1.835909  | 0.646071  | 0.000491      | 0.000239      |
| 1619  | 1.2D+1L+1E<br>y | Combination | Min      | -0.809881 | -1.789321 | -1.407867 | -0.000476     | -0.000227     |
| 1619  | 0.9D+1Ey        | Combination | Max      | 0.795336  | 1.829446  | 0.769398  | 0.000489      | 0.000237      |
| 1619  | 0.9D+1Ey        | Combination | Min      | -0.807864 | -1.795784 | -1.284540 | -0.000479     | -0.000229     |
| 1619  | 1D+0.5L         | Combination |          | -0.006925 | 0.019127  | -0.304925 | 5.984E-06     | 4.678E-06     |
| 1620  | 1.4D            | Combination |          | 0.020864  | -0.001895 | -0.409700 | -0.000027     | 1.271E-06     |
| 1620  | 1.2D+1.6L       | Combination |          | 0.022656  | -0.004151 | -0.414173 | -0.000036     | 2.023E-06     |
| 1620  | 1.2D+1L+1E      | Combination | Max      | 3.129726  | 0.632067  | 1.044212  | 0.000123      | 0.000883      |
| 1620  | 1.2D+1L+1E      | Combination | Min      | -3.087993 | -0.638473 | -1.825308 | -0.000185     | -0.000879     |
| 1620  | 0.9D+1E         | Combination | Max      | 3.122272  | 0.634052  | 1.171381  | 0.000137      | 0.000882      |
| 1620  | 0.9D+1E         | Combination | Min      | -3.095447 | -0.636488 | -1.698139 | -0.000172     | -0.000880     |
| 1620  | 1.2D+1L+1E<br>y | Combination | Max      | 0.827442  | 1.800821  | 0.637321  | 0.000400      | 0.000232      |
| 1620  | 1.2D+1L+1E<br>y | Combination | Min      | -0.785709 | -1.807228 | -1.418416 | -0.000462     | -0.000228     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1620  | 0.9D+1Ey   | Combination | Max      | 0.819988  | 1.802806  | 0.764489  | 0.000413      | 0.000231      |
| 1620  | 0.9D+1Ey   | Combination | Min      | -0.793163 | -1.805242 | -1.291247 | -0.000448     | -0.000229     |
| 1620  | 1D+0.5L    | Combination |          | 0.016394  | -0.002143 | -0.312331 | -0.000023     | 1.200E-06     |
| 1621  | 1.4D       | Combination |          | -0.010965 | -0.036666 | -0.411041 | 2.543E-07     | 6.572E-06     |
| 1621  | 1.2D+1.6L  | Combination |          | -0.008703 | -0.039754 | -0.417079 | 6.470E-07     | 7.608E-06     |
| 1621  | 1.2D+1L+1E | Combination | Max      | 2.956752  | 0.618339  | 0.255933  | 0.000176      | 0.000862      |
| 1621  | 1.2D+1L+1E | Combination | Min      | -2.974679 | -0.691603 | -1.041522 | -0.000176     | -0.000848     |
| 1621  | 0.9D+1E    | Combination | Max      | 2.958666  | 0.631400  | 0.384487  | 0.000176      | 0.000859      |
| 1621  | 0.9D+1E    | Combination | Min      | -2.972764 | -0.678542 | -0.912968 | -0.000176     | -0.000850     |
| 1621  | 1.2D+1L+1E | Combination | Max      | 0.757515  | 1.775639  | 0.607159  | 0.000489      | 0.000228      |
|       | y          |             |          |           |           |           |               |               |
| 1621  | 1.2D+1L+1E | Combination | Min      | -0.775442 | -1.848902 | -1.392748 | -0.000488     | -0.000214     |
|       | y          |             |          |           |           |           |               |               |
| 1621  | 0.9D+1Ey   | Combination | Max      | 0.759429  | 1.788700  | 0.735713  | 0.000489      | 0.000225      |
| 1621  | 0.9D+1Ey   | Combination | Min      | -0.773527 | -1.835841 | -1.264194 | -0.000488     | -0.000217     |
| 1621  | 1D+0.5L    | Combination |          | -0.007615 | -0.028792 | -0.313838 | 3.157E-07     | 5.311E-06     |
| 1622  | 1.4D       | Combination |          | 0.019138  | -0.008580 | -0.422239 | 0.000025      | 3.427E-06     |
| 1622  | 1.2D+1.6L  | Combination |          | 0.021923  | -0.010902 | -0.430681 | 0.000034      | 4.694E-06     |
| 1622  | 1.2D+1L+1E | Combination | Max      | 3.004453  | 0.626653  | 0.871803  | 0.000187      | 0.000834      |
| 1622  | 1.2D+1L+1E | Combination | Min      | -2.964746 | -0.645795 | -1.681594 | -0.000128     | -0.000826     |
| 1622  | 0.9D+1E    | Combination | Max      | 2.996903  | 0.630708  | 1.005259  | 0.000174      | 0.000832      |
| 1622  | 0.9D+1E    | Combination | Min      | -2.972296 | -0.641740 | -1.548138 | -0.000141     | -0.000828     |
| 1622  | 1.2D+1L+1E | Combination | Max      | 0.792185  | 1.796264  | 0.596877  | 0.000474      | 0.000220      |
|       | y          |             |          |           |           |           |               |               |
| 1622  | 1.2D+1L+1E | Combination | Min      | -0.752479 | -1.815407 | -1.406668 | -0.000414     | -0.000212     |
|       | y          |             |          |           |           |           |               |               |
| 1622  | 0.9D+1Ey   | Combination | Max      | 0.784635  | 1.800320  | 0.730333  | 0.000460      | 0.000218      |
| 1622  | 0.9D+1Ey   | Combination | Min      | -0.760029 | -1.811352 | -1.273212 | -0.000428     | -0.000213     |
| 1622  | 1D+0.5L    | Combination |          | 0.015395  | -0.007237 | -0.323087 | 0.000022      | 2.997E-06     |
| 1623  | 1.4D       | Combination |          | 0.015791  | 0.021921  | -0.393816 | 4.244E-06     | 4.425E-08     |
| 1623  | 1.2D+1.6L  | Combination |          | 0.017855  | 0.024234  | -0.400441 | 3.570E-06     | -5.052E-07    |
| 1623  | 1.2D+1L+1E | Combination | Max      | 3.103449  | 1.333104  | 0.425370  | 0.000357      | 0.000854      |
| 1623  | 1.2D+1L+1E | Combination | Min      | -3.070979 | -1.288720 | -1.179088 | -0.000350     | -0.000855     |
| 1623  | 0.9D+1E    | Combination | Max      | 3.097366  | 1.325004  | 0.549062  | 0.000356      | 0.000855      |
| 1623  | 0.9D+1E    | Combination | Min      | -3.077063 | -1.296820 | -1.055396 | -0.000351     | -0.000855     |
| 1623  | 1.2D+1L+1E | Combination | Max      | 0.817941  | 1.931278  | 0.922491  | 0.000495      | 0.000221      |
|       | y          |             |          |           |           |           |               |               |
| 1623  | 1.2D+1L+1E | Combination | Min      | -0.785471 | -1.886894 | -1.676209 | -0.000488     | -0.000222     |
|       | y          |             |          |           |           |           |               |               |
| 1623  | 0.9D+1Ey   | Combination | Max      | 0.811858  | 1.923178  | 1.046183  | 0.000494      | 0.000222      |
| 1623  | 0.9D+1Ey   | Combination | Min      | -0.791555 | -1.894994 | -1.552517 | -0.000489     | -0.000221     |
| 1623  | 1D+0.5L    | Combination |          | 0.012629  | 0.017359  | -0.300948 | 3.010E-06     | -1.381E-07    |
| 1624  | 1.4D       | Combination |          | 0.050266  | -0.036683 | -0.397604 | 1.191E-06     | -0.000011     |
| 1624  | 1.2D+1.6L  | Combination |          | 0.053433  | -0.035128 | -0.401189 | 1.151E-06     | -0.000011     |
| 1624  | 1.2D+1L+1E | Combination | Max      | 2.935463  | 1.298270  | 0.755923  | 0.000373      | 0.000842      |
| 1624  | 1.2D+1L+1E | Combination | Min      | -2.836358 | -1.365763 | -1.513012 | -0.000371     | -0.000863     |
| 1624  | 0.9D+1E    | Combination | Max      | 2.918224  | 1.308434  | 0.878865  | 0.000373      | 0.000845      |
| 1624  | 0.9D+1E    | Combination | Min      | -2.853597 | -1.355599 | -1.390070 | -0.000371     | -0.000860     |
| 1624  | 1.2D+1L+1E | Combination | Max      | 0.800648  | 1.850028  | 0.527925  | 0.000517      | 0.000210      |
|       | y          |             |          |           |           |           |               |               |
| 1624  | 1.2D+1L+1E | Combination | Min      | -0.701543 | -1.917520 | -1.285013 | -0.000515     | -0.000231     |
|       | y          |             |          |           |           |           |               |               |
| 1624  | 0.9D+1Ey   | Combination | Max      | 0.783409  | 1.860192  | 0.650866  | 0.000516      | 0.000213      |
| 1624  | 0.9D+1Ey   | Combination | Min      | -0.718782 | -1.907356 | -1.162072 | -0.000515     | -0.000228     |
| 1624  | 1D+0.5L    | Combination |          | 0.039138  | -0.027354 | -0.302873 | 8.911E-07     | -8.470E-06    |
| 1625  | 1.4D       | Combination |          | 0.047418  | -0.026747 | -0.434495 | 0.000019      | -9.417E-06    |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1625  | 1.2D+1.6L       | Combination |          | 0.055074  | -0.030450 | -0.446312 | 0.000026      | -7.539E-06    |
| 1625  | 1.2D+1L+1E      | Combination | Max      | 2.680038  | 0.813974  | 1.630007  | 0.000257      | 0.000687      |
| 1625  | 1.2D+1L+1E      | Combination | Min      | -2.580712 | -0.869230 | -2.467215 | -0.000212     | -0.000703     |
| 1625  | 0.9D+1E         | Combination | Max      | 2.660858  | 0.824408  | 1.769293  | 0.000247      | 0.000689      |
| 1625  | 0.9D+1E         | Combination | Min      | -2.599892 | -0.858796 | -2.327929 | -0.000222     | -0.000701     |
| 1625  | 1.2D+1L+1E<br>y | Combination | Max      | 0.730895  | 1.772923  | 0.402850  | 0.000506      | 0.000177      |
| 1625  | 1.2D+1L+1E<br>y | Combination | Min      | -0.631570 | -1.828179 | -1.240058 | -0.000461     | -0.000193     |
| 1625  | 0.9D+1Ey        | Combination | Max      | 0.711715  | 1.783357  | 0.542136  | 0.000496      | 0.000179      |
| 1625  | 0.9D+1Ey        | Combination | Min      | -0.650750 | -1.817745 | -1.100772 | -0.000471     | -0.000191     |
| 1625  | 1D+0.5L         | Combination |          | 0.038379  | -0.021456 | -0.333443 | 0.000017      | -6.560E-06    |
| 1626  | 1.4D            | Combination |          | -0.018785 | 0.021794  | -0.408356 | 7.648E-06     | 0.000022      |
| 1626  | 1.2D+1.6L       | Combination |          | -0.012401 | 0.018649  | -0.412147 | 9.079E-06     | 0.000024      |
| 1626  | 1.2D+1L+1E      | Combination | Max      | 2.525560  | 0.961702  | 0.403396  | 0.000272      | 0.000776      |
| 1626  | 1.2D+1L+1E      | Combination | Min      | -2.553137 | -0.924380 | -1.181094 | -0.000256     | -0.000732     |
| 1626  | 0.9D+1E         | Combination | Max      | 2.527273  | 0.957051  | 0.529730  | 0.000269      | 0.000768      |
| 1626  | 0.9D+1E         | Combination | Min      | -2.551424 | -0.929031 | -1.054759 | -0.000259     | -0.000740     |
| 1626  | 1.2D+1L+1E<br>y | Combination | Max      | 0.645198  | 1.788302  | 0.356962  | 0.000503      | 0.000218      |
| 1626  | 1.2D+1L+1E<br>y | Combination | Min      | -0.672775 | -1.750980 | -1.134660 | -0.000487     | -0.000174     |
| 1626  | 0.9D+1Ey        | Combination | Max      | 0.646911  | 1.783651  | 0.483296  | 0.000500      | 0.000210      |
| 1626  | 0.9D+1Ey        | Combination | Min      | -0.671062 | -1.755631 | -1.008325 | -0.000490     | -0.000182     |
| 1626  | 1D+0.5L         | Combination |          | -0.012261 | 0.015557  | -0.311098 | 6.251E-06     | 0.000017      |
| 1627  | 1.4D            | Combination |          | 0.019228  | -0.048146 | -0.440308 | 6.367E-06     | -0.000046     |
| 1627  | 1.2D+1.6L       | Combination |          | 0.026863  | -0.052712 | -0.453691 | 9.123E-06     | -0.000062     |
| 1627  | 1.2D+1L+1E      | Combination | Max      | 2.629727  | 0.928004  | 0.565485  | 0.000267      | 0.000502      |
| 1627  | 1.2D+1L+1E      | Combination | Min      | -2.583787 | -1.024845 | -1.415653 | -0.000251     | -0.000610     |
| 1627  | 0.9D+1E         | Combination | Max      | 2.619118  | 0.945474  | 0.707514  | 0.000263      | 0.000526      |
| 1627  | 0.9D+1E         | Combination | Min      | -2.594396 | -1.007376 | -1.273624 | -0.000255     | -0.000586     |
| 1627  | 1.2D+1L+1E<br>y | Combination | Max      | 0.701753  | 1.774638  | 1.053254  | 0.000494      | 0.000095      |
| 1627  | 1.2D+1L+1E<br>y | Combination | Min      | -0.655813 | -1.871479 | -1.903423 | -0.000479     | -0.000203     |
| 1627  | 0.9D+1Ey        | Combination | Max      | 0.691144  | 1.792108  | 1.195284  | 0.000491      | 0.000119      |
| 1627  | 0.9D+1Ey        | Combination | Min      | -0.666422 | -1.854010 | -1.761394 | -0.000483     | -0.000179     |
| 1627  | 1D+0.5L         | Combination |          | 0.016979  | -0.037966 | -0.338344 | 5.693E-06     | -0.000040     |
| 1628  | 1.4D            | Combination |          | 0.030823  | -0.009870 | -0.391133 | -0.000030     | 6.235E-06     |
| 1628  | 1.2D+1.6L       | Combination |          | 0.038007  | -0.011920 | -0.400138 | -0.000040     | 8.652E-06     |
| 1628  | 1.2D+1L+1E      | Combination | Max      | 2.680960  | 0.623780  | 0.835086  | 0.000121      | 0.000744      |
| 1628  | 1.2D+1L+1E      | Combination | Min      | -2.613637 | -0.645025 | -1.586702 | -0.000190     | -0.000730     |
| 1628  | 0.9D+1E         | Combination | Max      | 2.667114  | 0.628058  | 0.959451  | 0.000136      | 0.000741      |
| 1628  | 0.9D+1E         | Combination | Min      | -2.627484 | -0.640748 | -1.462337 | -0.000175     | -0.000733     |
| 1628  | 1.2D+1L+1E<br>y | Combination | Max      | 0.719203  | 1.790064  | 0.668356  | 0.000406      | 0.000200      |
| 1628  | 1.2D+1L+1E<br>y | Combination | Min      | -0.651880 | -1.811309 | -1.419971 | -0.000476     | -0.000185     |
| 1628  | 0.9D+1Ey        | Combination | Max      | 0.705356  | 1.794342  | 0.792721  | 0.000422      | 0.000196      |
| 1628  | 0.9D+1Ey        | Combination | Min      | -0.665726 | -1.807032 | -1.295607 | -0.000460     | -0.000188     |
| 1628  | 1D+0.5L         | Combination |          | 0.025637  | -0.008131 | -0.299656 | -0.000026     | 5.487E-06     |
| 1629  | 1.4D            | Combination |          | 0.000876  | 0.015936  | -0.372808 | 5.456E-06     | 0.000011      |
| 1629  | 1.2D+1.6L       | Combination |          | 0.007551  | 0.013933  | -0.376729 | 6.412E-06     | 0.000013      |
| 1629  | 1.2D+1L+1E      | Combination | Max      | 2.629298  | 0.664731  | 0.202679  | 0.000179      | 0.000772      |
| 1629  | 1.2D+1L+1E      | Combination | Min      | -2.619295 | -0.637071 | -0.913252 | -0.000168     | -0.000750     |
| 1629  | 0.9D+1E         | Combination | Max      | 2.624860  | 0.661145  | 0.318303  | 0.000177      | 0.000768      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1629  | 0.9D+1E    | Combination | Min      | -2.623733 | -0.640657 | -0.797628 | -0.000170     | -0.000754     |
| 1629  | 1.2D+1L+1E | Combination | Max      | 0.684369  | 1.830298  | 0.697632  | 0.000490      | 0.000208      |
|       | y          |             |          |           |           |           |               |               |
| 1629  | 1.2D+1L+1E | Combination | Min      | -0.674367 | -1.802637 | -1.408206 | -0.000478     | -0.000185     |
|       | y          |             |          |           |           |           |               |               |
| 1629  | 0.9D+1Ey   | Combination | Max      | 0.679931  | 1.826712  | 0.813257  | 0.000487      | 0.000204      |
| 1629  | 0.9D+1Ey   | Combination | Min      | -0.678805 | -1.806223 | -1.292582 | -0.000480     | -0.000190     |
| 1629  | 1D+0.5L    | Combination |          | 0.002751  | 0.011468  | -0.284160 | 4.439E-06     | 8.709E-06     |
| 1630  | 1.4D       | Combination |          | 0.011278  | -0.046606 | -0.386431 | 2.164E-08     | 0.000011      |
| 1630  | 1.2D+1.6L  | Combination |          | 0.018743  | -0.049600 | -0.394059 | 8.297E-07     | 0.000013      |
| 1630  | 1.2D+1L+1E | Combination | Max      | 2.631690  | 0.606062  | 0.191956  | 0.000173      | 0.000763      |
| 1630  | 1.2D+1L+1E | Combination | Min      | -2.601011 | -0.698023 | -0.932950 | -0.000172     | -0.000739     |
| 1630  | 0.9D+1E    | Combination | Max      | 2.623600  | 0.622082  | 0.314033  | 0.000172      | 0.000758      |
| 1630  | 0.9D+1E    | Combination | Min      | -2.609100 | -0.682003 | -0.810872 | -0.000172     | -0.000744     |
| 1630  | 1.2D+1L+1E | Combination | Max      | 0.697758  | 1.769744  | 0.681130  | 0.000482      | 0.000207      |
|       | y          |             |          |           |           |           |               |               |
| 1630  | 1.2D+1L+1E | Combination | Min      | -0.667079 | -1.861704 | -1.422124 | -0.000481     | -0.000184     |
|       | y          |             |          |           |           |           |               |               |
| 1630  | 0.9D+1Ey   | Combination | Max      | 0.689668  | 1.785763  | 0.803207  | 0.000482      | 0.000202      |
| 1630  | 0.9D+1Ey   | Combination | Min      | -0.675168 | -1.845685 | -1.300047 | -0.000482     | -0.000188     |
| 1630  | 1D+0.5L    | Combination |          | 0.010892  | -0.036306 | -0.295657 | 2.690E-07     | 8.930E-06     |
| 1631  | 1.4D       | Combination |          | 0.038953  | -0.015927 | -0.405450 | 3.626E-06     | 7.271E-06     |
| 1631  | 1.2D+1.6L  | Combination |          | 0.047163  | -0.017970 | -0.418675 | 4.678E-06     | 0.000010      |
| 1631  | 1.2D+1L+1E | Combination | Max      | 2.679076  | 0.617764  | 0.807178  | 0.000181      | 0.000742      |
| 1631  | 1.2D+1L+1E | Combination | Min      | -2.595081 | -0.650465 | -1.591168 | -0.000173     | -0.000725     |
| 1631  | 0.9D+1E    | Combination | Max      | 2.662119  | 0.623876  | 0.938526  | 0.000179      | 0.000738      |
| 1631  | 0.9D+1E    | Combination | Min      | -2.612037 | -0.644353 | -1.459819 | -0.000174     | -0.000729     |
| 1631  | 1.2D+1L+1E | Combination | Max      | 0.729243  | 1.783021  | 0.651393  | 0.000499      | 0.000201      |
|       | y          |             |          |           |           |           |               |               |
| 1631  | 1.2D+1L+1E | Combination | Min      | -0.645248 | -1.815722 | -1.435382 | -0.000491     | -0.000184     |
|       | y          |             |          |           |           |           |               |               |
| 1631  | 0.9D+1Ey   | Combination | Max      | 0.712287  | 1.789133  | 0.782741  | 0.000497      | 0.000197      |
| 1631  | 0.9D+1Ey   | Combination | Min      | -0.662205 | -1.809610 | -1.304034 | -0.000493     | -0.000188     |
| 1631  | 1D+0.5L    | Combination |          | 0.032128  | -0.012726 | -0.311840 | 3.081E-06     | 6.382E-06     |
| 1632  | 1.4D       | Combination |          | 0.008430  | 0.009360  | -0.329624 | 0.000014      | 0.000020      |
| 1632  | 1.2D+1.6L  | Combination |          | 0.016672  | 0.010907  | -0.308030 | 0.000020      | 0.000021      |
| 1632  | 1.2D+1L+1E | Combination | Max      | 2.639701  | 1.033570  | 1.718480  | 0.000300      | 0.000712      |
| 1632  | 1.2D+1L+1E | Combination | Min      | -2.613442 | -1.013918 | -2.315418 | -0.000266     | -0.000672     |
| 1632  | 0.9D+1E    | Combination | Max      | 2.631990  | 1.029761  | 1.805048  | 0.000293      | 0.000705      |
| 1632  | 0.9D+1E    | Combination | Min      | -2.621152 | -1.017727 | -2.228851 | -0.000274     | -0.000679     |
| 1632  | 1.2D+1L+1E | Combination | Max      | 0.692526  | 1.767533  | 0.456928  | 0.000491      | 0.000205      |
|       | y          |             |          |           |           |           |               |               |
| 1632  | 1.2D+1L+1E | Combination | Min      | -0.666266 | -1.747881 | -1.053866 | -0.000457     | -0.000166     |
|       | y          |             |          |           |           |           |               |               |
| 1632  | 0.9D+1Ey   | Combination | Max      | 0.684815  | 1.763724  | 0.543496  | 0.000484      | 0.000199      |
| 1632  | 0.9D+1Ey   | Combination | Min      | -0.673977 | -1.751690 | -0.967299 | -0.000465     | -0.000173     |
| 1632  | 1D+0.5L    | Combination |          | 0.008973  | 0.007587  | -0.243413 | 0.000013      | 0.000016      |
| 1633  | 1.4D       | Combination |          | 0.062521  | 0.033383  | -0.353975 | 6.919E-07     | -6.981E-06    |
| 1633  | 1.2D+1.6L  | Combination |          | 0.067919  | 0.034835  | -0.339431 | -5.337E-07    | -4.346E-06    |
| 1633  | 1.2D+1L+1E | Combination | Max      | 2.598254  | 1.155156  | 0.516940  | 0.000315      | 0.000751      |
| 1633  | 1.2D+1L+1E | Combination | Min      | -2.473164 | -1.090152 | -1.168785 | -0.000315     | -0.000761     |
| 1633  | 0.9D+1E    | Combination | Max      | 2.575901  | 1.144115  | 0.615307  | 0.000316      | 0.000752      |
| 1633  | 0.9D+1E    | Combination | Min      | -2.495517 | -1.101194 | -1.070418 | -0.000315     | -0.000761     |
| 1633  | 1.2D+1L+1E | Combination | Max      | 0.724357  | 1.730362  | 0.368996  | 0.000482      | 0.000191      |
|       | y          |             |          |           |           |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1633  | 1.2D+1L+1E<br>y | Combination | Min      | -0.599266 | -1.665358 | -1.020840 | -0.000483     | -0.000201     |
| 1633  | 0.9D+1Ey        | Combination | Max      | 0.702004  | 1.719320  | 0.467363  | 0.000483      | 0.000191      |
| 1633  | 0.9D+1Ey        | Combination | Min      | -0.621620 | -1.676400 | -0.922474 | -0.000482     | -0.000200     |
| 1633  | 1D+0.5L         | Combination |          | 0.049136  | 0.025789  | -0.264097 | 1.421E-07     | -4.475E-06    |
| 1634  | 1.4D            | Combination |          | 0.009561  | -0.032990 | -0.348418 | -5.074E-06    | -1.333E-06    |
| 1634  | 1.2D+1.6L       | Combination |          | 0.018688  | -0.028514 | -0.330291 | -5.622E-06    | -1.338E-06    |
| 1634  | 1.2D+1L+1E      | Combination | Max      | 2.629066  | 1.147097  | 0.847451  | 0.000306      | 0.000682      |
| 1634  | 1.2D+1L+1E      | Combination | Min      | -2.599559 | -1.203947 | -1.484297 | -0.000316     | -0.000685     |
| 1634  | 0.9D+1E         | Combination | Max      | 2.620459  | 1.154314  | 0.941891  | 0.000308      | 0.000682      |
| 1634  | 0.9D+1E         | Combination | Min      | -2.608166 | -1.196730 | -1.389856 | -0.000314     | -0.000684     |
| 1634  | 1.2D+1L+1E<br>y | Combination | Max      | 0.695771  | 1.740400  | 1.164964  | 0.000470      | 0.000182      |
| 1634  | 1.2D+1L+1E<br>y | Combination | Min      | -0.666264 | -1.797251 | -1.801809 | -0.000480     | -0.000185     |
| 1634  | 0.9D+1Ey        | Combination | Max      | 0.687164  | 1.747617  | 1.259404  | 0.000472      | 0.000183      |
| 1634  | 0.9D+1Ey        | Combination | Min      | -0.674871 | -1.790033 | -1.707369 | -0.000479     | -0.000184     |
| 1634  | 1D+0.5L         | Combination |          | 0.010108  | -0.023638 | -0.258759 | -4.022E-06    | -1.013E-06    |
| 1635  | 1.4D            | Combination |          | 0.012571  | 0.006698  | -0.481906 | 2.629E-06     | 0.000019      |
| 1635  | 1.2D+1.6L       | Combination |          | 0.016724  | -0.007307 | -0.455400 | 5.020E-06     | 0.000026      |
| 1635  | 1.2D+1L+1E      | Combination | Max      | 6.369230  | 2.391110  | 0.666351  | 0.000444      | 0.001195      |
| 1635  | 1.2D+1L+1E      | Combination | Min      | -6.340243 | -2.395938 | -1.545398 | -0.000437     | -0.001151     |
| 1635  | 0.9D+1E         | Combination | Max      | 6.362818  | 2.397830  | 0.796078  | 0.000442      | 0.001185      |
| 1635  | 0.9D+1E         | Combination | Min      | -6.346655 | -2.389218 | -1.415671 | -0.000439     | -0.001161     |
| 1635  | 1.2D+1L+1E<br>y | Combination | Max      | 1.663003  | 3.631786  | 1.382136  | 0.000666      | 0.000327      |
| 1635  | 1.2D+1L+1E<br>y | Combination | Min      | -1.634016 | -3.636614 | -2.261184 | -0.000658     | -0.000282     |
| 1635  | 0.9D+1Ey        | Combination | Max      | 1.656591  | 3.638506  | 1.511863  | 0.000663      | 0.000316      |
| 1635  | 0.9D+1Ey        | Combination | Min      | -1.640428 | -3.629894 | -2.131457 | -0.000660     | -0.000292     |
| 1635  | 1D+0.5L         | Combination |          | 0.010838  | 0.000707  | -0.357449 | 2.743E-06     | 0.000017      |
| 1636  | 1.4D            | Combination |          | -0.015429 | -0.048517 | -0.501407 | 4.454E-06     | -6.250E-06    |
| 1636  | 1.2D+1.6L       | Combination |          | -0.008907 | -0.060148 | -0.485070 | 7.431E-06     | -4.614E-06    |
| 1636  | 1.2D+1L+1E      | Combination | Max      | 5.981222  | 2.365293  | 1.082553  | 0.000464      | 0.001102      |
| 1636  | 1.2D+1L+1E      | Combination | Min      | -6.002275 | -2.471667 | -2.011223 | -0.000452     | -0.001111     |
| 1636  | 0.9D+1E         | Combination | Max      | 5.981830  | 2.387290  | 1.224555  | 0.000461      | 0.001102      |
| 1636  | 0.9D+1E         | Combination | Min      | -6.001667 | -2.449669 | -1.869221 | -0.000455     | -0.001111     |
| 1636  | 1.2D+1L+1E<br>y | Combination | Max      | 1.538562  | 3.547007  | 0.636101  | 0.000684      | 0.000283      |
| 1636  | 1.2D+1L+1E<br>y | Combination | Min      | -1.559614 | -3.653381 | -1.564771 | -0.000672     | -0.000293     |
| 1636  | 0.9D+1Ey        | Combination | Max      | 1.539170  | 3.569005  | 0.778103  | 0.000681      | 0.000284      |
| 1636  | 0.9D+1Ey        | Combination | Min      | -1.559007 | -3.631383 | -1.422769 | -0.000675     | -0.000292     |
| 1636  | 1D+0.5L         | Combination |          | -0.009671 | -0.040455 | -0.375427 | 4.311E-06     | -4.232E-06    |
| 1637  | 1.4D            | Combination |          | 0.038356  | -0.008177 | -0.522151 | -0.000013     | 0.000017      |
| 1637  | 1.2D+1.6L       | Combination |          | 0.043488  | -0.019909 | -0.511274 | -0.000020     | 0.000018      |
| 1637  | 1.2D+1L+1E      | Combination | Max      | 6.091119  | 2.052897  | 2.361004  | 0.000363      | 0.001144      |
| 1637  | 1.2D+1L+1E      | Combination | Min      | -6.012102 | -2.083040 | -3.335765 | -0.000397     | -0.001110     |
| 1637  | 0.9D+1E         | Combination | Max      | 6.076268  | 2.062712  | 2.512716  | 0.000371      | 0.001138      |
| 1637  | 0.9D+1E         | Combination | Min      | -6.026953 | -2.073225 | -3.184053 | -0.000389     | -0.001116     |
| 1637  | 1.2D+1L+1E<br>y | Combination | Max      | 1.604031  | 3.626982  | 0.713622  | 0.000673      | 0.000308      |
| 1637  | 1.2D+1L+1E<br>y | Combination | Min      | -1.525013 | -3.657125 | -1.688383 | -0.000706     | -0.000275     |
| 1637  | 0.9D+1Ey        | Combination | Max      | 1.589179  | 3.636797  | 0.865334  | 0.000681      | 0.000302      |
| 1637  | 0.9D+1Ey        | Combination | Min      | -1.539865 | -3.647309 | -1.536671 | -0.000698     | -0.000281     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1637  | 1D+0.5L    | Combination |          | 0.030713  | -0.009872 | -0.392876 | -0.000012     | 0.000013      |
| 1638  | 1.4D       | Combination |          | 0.002765  | 0.015085  | -0.593542 | 2.167E-06     | 2.188E-06     |
| 1638  | 1.2D+1.6L  | Combination |          | 0.006710  | 0.009636  | -0.597730 | 3.375E-06     | 2.822E-06     |
| 1638  | 1.2D+1L+1E | Combination | Max      | 6.362991  | 1.334329  | 0.241093  | 0.000245      | 0.001194      |
| 1638  | 1.2D+1L+1E | Combination | Min      | -6.352826 | -1.312587 | -1.369818 | -0.000240     | -0.001189     |
| 1638  | 0.9D+1E    | Combination | Max      | 6.359686  | 1.333155  | 0.423893  | 0.000244      | 0.001193      |
| 1638  | 0.9D+1E    | Combination | Min      | -6.356131 | -1.313761 | -1.187018 | -0.000241     | -0.001190     |
| 1638  | 1.2D+1L+1E | Combination | Max      | 1.655639  | 3.704464  | 0.869980  | 0.000679      | 0.000311      |
|       | y          |             |          |           |           |           |               |               |
| 1638  | 1.2D+1L+1E | Combination | Min      | -1.645475 | -3.682722 | -1.998705 | -0.000674     | -0.000306     |
|       | y          |             |          |           |           |           |               |               |
| 1638  | 0.9D+1Ey   | Combination | Max      | 1.652334  | 3.703290  | 1.052780  | 0.000678      | 0.000310      |
| 1638  | 0.9D+1Ey   | Combination | Min      | -1.648779 | -3.683896 | -1.815905 | -0.000675     | -0.000307     |
| 1638  | 1D+0.5L    | Combination |          | 0.003331  | 0.009745  | -0.451765 | 2.022E-06     | 1.859E-06     |
| 1639  | 1.4D       | Combination |          | 0.033570  | -0.011104 | -0.604716 | -0.000024     | 7.397E-06     |
| 1639  | 1.2D+1.6L  | Combination |          | 0.037810  | -0.015963 | -0.611326 | -0.000033     | 8.676E-06     |
| 1639  | 1.2D+1L+1E | Combination | Max      | 6.415447  | 1.287192  | 1.351904  | 0.000179      | 0.001192      |
| 1639  | 1.2D+1L+1E | Combination | Min      | -6.346605 | -1.314284 | -2.504807 | -0.000236     | -0.001176     |
| 1639  | 0.9D+1E    | Combination | Max      | 6.402607  | 1.293600  | 1.539609  | 0.000192      | 0.001189      |
| 1639  | 0.9D+1E    | Combination | Min      | -6.359446 | -1.307877 | -2.317101 | -0.000223     | -0.001179     |
| 1639  | 1.2D+1L+1E | Combination | Max      | 1.688817  | 3.680174  | 0.879511  | 0.000548      | 0.000315      |
|       | y          |             |          |           |           |           |               |               |
| 1639  | 1.2D+1L+1E | Combination | Min      | -1.619974 | -3.707267 | -2.032414 | -0.000605     | -0.000299     |
|       | y          |             |          |           |           |           |               |               |
| 1639  | 0.9D+1Ey   | Combination | Max      | 1.675976  | 3.686582  | 1.067217  | 0.000561      | 0.000312      |
| 1639  | 0.9D+1Ey   | Combination | Min      | -1.632815 | -3.700859 | -1.844709 | -0.000592     | -0.000302     |
| 1639  | 1D+0.5L    | Combination |          | 0.026802  | -0.009946 | -0.461002 | -0.000021     | 6.013E-06     |
| 1640  | 1.4D       | Combination |          | 0.003051  | -0.044512 | -0.610448 | 1.247E-06     | 3.490E-06     |
| 1640  | 1.2D+1.6L  | Combination |          | 0.008707  | -0.050662 | -0.619563 | 1.973E-06     | 4.684E-06     |
| 1640  | 1.2D+1L+1E | Combination | Max      | 6.110755  | 1.283396  | 0.307524  | 0.000246      | 0.001140      |
| 1640  | 1.2D+1L+1E | Combination | Min      | -6.097910 | -1.375339 | -1.474408 | -0.000243     | -0.001132     |
| 1640  | 0.9D+1E    | Combination | Max      | 6.106294  | 1.300753  | 0.498535  | 0.000246      | 0.001139      |
| 1640  | 0.9D+1E    | Combination | Min      | -6.102371 | -1.357982 | -1.283397 | -0.000244     | -0.001134     |
| 1640  | 1.2D+1L+1E | Combination | Max      | 1.582925  | 3.647735  | 0.812840  | 0.000682      | 0.000297      |
|       | y          |             |          |           |           |           |               |               |
| 1640  | 1.2D+1L+1E | Combination | Min      | -1.570081 | -3.739677 | -1.979724 | -0.000678     | -0.000289     |
|       | y          |             |          |           |           |           |               |               |
| 1640  | 0.9D+1Ey   | Combination | Max      | 1.578464  | 3.665091  | 1.003851  | 0.000681      | 0.000296      |
| 1640  | 0.9D+1Ey   | Combination | Min      | -1.574542 | -3.722321 | -1.788713 | -0.000679     | -0.000291     |
| 1640  | 1D+0.5L    | Combination |          | 0.004083  | -0.035703 | -0.466135 | 1.173E-06     | 3.022E-06     |
| 1641  | 1.4D       | Combination |          | 0.032938  | -0.017076 | -0.623845 | 0.000026      | 8.976E-06     |
| 1641  | 1.2D+1.6L  | Combination |          | 0.039118  | -0.021976 | -0.636244 | 0.000036      | 0.000011      |
| 1641  | 1.2D+1L+1E | Combination | Max      | 6.153661  | 1.282128  | 1.109498  | 0.000242      | 0.001122      |
| 1641  | 1.2D+1L+1E | Combination | Min      | -6.083589 | -1.320575 | -2.305846 | -0.000181     | -0.001102     |
| 1641  | 0.9D+1E    | Combination | Max      | 6.139799  | 1.290374  | 1.306629  | 0.000228      | 0.001118      |
| 1641  | 0.9D+1E    | Combination | Min      | -6.097451 | -1.312329 | -2.108715 | -0.000194     | -0.001106     |
| 1641  | 1.2D+1L+1E | Combination | Max      | 1.616102  | 3.675477  | 0.814313  | 0.000628      | 0.000297      |
|       | y          |             |          |           |           |           |               |               |
| 1641  | 1.2D+1L+1E | Combination | Min      | -1.546030 | -3.713925 | -2.010661 | -0.000567     | -0.000278     |
|       | y          |             |          |           |           |           |               |               |
| 1641  | 0.9D+1Ey   | Combination | Max      | 1.602240  | 3.683724  | 1.011444  | 0.000614      | 0.000293      |
| 1641  | 0.9D+1Ey   | Combination | Min      | -1.559892 | -3.705679 | -1.813530 | -0.000581     | -0.000282     |
| 1641  | 1D+0.5L    | Combination |          | 0.026929  | -0.014491 | -0.477328 | 0.000023      | 7.420E-06     |
| 1642  | 1.4D       | Combination |          | 0.028102  | 0.018691  | -0.584087 | -1.202E-07    | 1.925E-06     |
| 1642  | 1.2D+1.6L  | Combination |          | 0.032463  | 0.023134  | -0.593558 | -9.576E-07    | 1.565E-06     |
| 1642  | 1.2D+1L+1E | Combination | Max      | 6.386999  | 2.698621  | 0.531367  | 0.000473      | 0.001142      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1642  | 1.2D+1L+1E      | Combination | Min      | -6.328355 | -2.657687 | -1.648799 | -0.000474     | -0.001138     |
| 1642  | 0.9D+1E         | Combination | Max      | 6.375743  | 2.690169  | 0.714599  | 0.000473      | 0.001141      |
| 1642  | 0.9D+1E         | Combination | Min      | -6.339611 | -2.666139 | -1.465568 | -0.000473     | -0.001139     |
| 1642  | 1.2D+1L+1E<br>y | Combination | Max      | 1.678961  | 3.887877  | 1.204430  | 0.000679      | 0.000297      |
| 1642  | 1.2D+1L+1E<br>y | Combination | Min      | -1.620317 | -3.846944 | -2.321862 | -0.000680     | -0.000294     |
| 1642  | 0.9D+1Ey        | Combination | Max      | 1.667705  | 3.879426  | 1.387661  | 0.000679      | 0.000296      |
| 1642  | 0.9D+1Ey        | Combination | Min      | -1.631573 | -3.855395 | -2.138631 | -0.000679     | -0.000294     |
| 1642  | 1D+0.5L         | Combination |          | 0.022690  | 0.015573  | -0.446240 | -3.529E-07    | 1.348E-06     |
| 1643  | 1.4D            | Combination |          | 0.063803  | -0.036638 | -0.588670 | 1.926E-06     | 0.000019      |
| 1643  | 1.2D+1.6L       | Combination |          | 0.070120  | -0.032918 | -0.594357 | 1.820E-06     | 0.000020      |
| 1643  | 1.2D+1L+1E      | Combination | Max      | 6.065893  | 2.666492  | 0.979255  | 0.000502      | 0.001123      |
| 1643  | 1.2D+1L+1E      | Combination | Min      | -5.937228 | -2.731192 | -2.100632 | -0.000498     | -0.001085     |
| 1643  | 0.9D+1E         | Combination | Max      | 6.042576  | 2.675289  | 1.161512  | 0.000501      | 0.001116      |
| 1643  | 0.9D+1E         | Combination | Min      | -5.960545 | -2.722395 | -1.918374 | -0.000499     | -0.001092     |
| 1643  | 1.2D+1L+1E<br>y | Combination | Max      | 1.618860  | 3.819413  | 0.703827  | 0.000708      | 0.000307      |
| 1643  | 1.2D+1L+1E<br>y | Combination | Min      | -1.490194 | -3.884113 | -1.825204 | -0.000705     | -0.000269     |
| 1643  | 0.9D+1Ey        | Combination | Max      | 1.595543  | 3.828210  | 0.886085  | 0.000708      | 0.000300      |
| 1643  | 0.9D+1Ey        | Combination | Min      | -1.513511 | -3.875316 | -1.642947 | -0.000705     | -0.000276     |
| 1643  | 1D+0.5L         | Combination |          | 0.050396  | -0.026643 | -0.448536 | 1.428E-06     | 0.000015      |
| 1644  | 1.4D            | Combination |          | 0.071774  | -0.044928 | -0.642166 | 0.000020      | 0.000025      |
| 1644  | 1.2D+1.6L       | Combination |          | 0.087484  | -0.053795 | -0.659455 | 0.000028      | 0.000028      |
| 1644  | 1.2D+1L+1E      | Combination | Max      | 5.444681  | 1.671926  | 2.207999  | 0.000340      | 0.001029      |
| 1644  | 1.2D+1L+1E      | Combination | Min      | -5.289186 | -1.768051 | -3.445139 | -0.000292     | -0.000977     |
| 1644  | 0.9D+1E         | Combination | Max      | 5.413074  | 1.691106  | 2.413748  | 0.000329      | 0.001019      |
| 1644  | 0.9D+1E         | Combination | Min      | -5.320793 | -1.748871 | -3.239390 | -0.000303     | -0.000987     |
| 1644  | 1.2D+1L+1E<br>y | Combination | Max      | 1.465489  | 3.642972  | 0.556254  | 0.000676      | 0.000285      |
| 1644  | 1.2D+1L+1E<br>y | Combination | Min      | -1.309995 | -3.739098 | -1.793393 | -0.000628     | -0.000234     |
| 1644  | 0.9D+1Ey        | Combination | Max      | 1.433882  | 3.662153  | 0.762002  | 0.000665      | 0.000275      |
| 1644  | 0.9D+1Ey        | Combination | Min      | -1.341602 | -3.719917 | -1.587645 | -0.000639     | -0.000244     |
| 1644  | 1D+0.5L         | Combination |          | 0.059380  | -0.036868 | -0.492761 | 0.000018      | 0.000020      |
| 1645  | 1.4D            | Combination |          | 0.006936  | -0.002844 | -0.605685 | 9.067E-06     | -5.846E-06    |
| 1645  | 1.2D+1.6L       | Combination |          | 0.021412  | -0.012132 | -0.611697 | 0.000012      | -3.713E-06    |
| 1645  | 1.2D+1L+1E      | Combination | Max      | 5.306326  | 1.943868  | 0.498989  | 0.000377      | 0.000961      |
| 1645  | 1.2D+1L+1E      | Combination | Min      | -5.275103 | -1.960862 | -1.652980 | -0.000356     | -0.000970     |
| 1645  | 0.9D+1E         | Combination | Max      | 5.295174  | 1.950537  | 0.686616  | 0.000372      | 0.000962      |
| 1645  | 0.9D+1E         | Combination | Min      | -5.286255 | -1.954193 | -1.465353 | -0.000361     | -0.000969     |
| 1645  | 1.2D+1L+1E<br>y | Combination | Max      | 1.384936  | 3.660253  | 0.462282  | 0.000701      | 0.000247      |
| 1645  | 1.2D+1L+1E<br>y | Combination | Min      | -1.353713 | -3.677246 | -1.616273 | -0.000681     | -0.000256     |
| 1645  | 0.9D+1Ey        | Combination | Max      | 1.373784  | 3.666921  | 0.649909  | 0.000697      | 0.000248      |
| 1645  | 0.9D+1Ey        | Combination | Min      | -1.364866 | -3.670578 | -1.428646 | -0.000685     | -0.000255     |
| 1645  | 1D+0.5L         | Combination |          | 0.009788  | -0.005061 | -0.461550 | 7.675E-06     | -3.770E-06    |
| 1646  | 1.4D            | Combination |          | 0.048600  | -0.068732 | -0.651029 | 0.000015      | -0.000047     |
| 1646  | 1.2D+1.6L       | Combination |          | 0.065356  | -0.079344 | -0.670389 | 0.000019      | -0.000062     |
| 1646  | 1.2D+1L+1E      | Combination | Max      | 5.423442  | 1.906812  | 0.771551  | 0.000381      | 0.000692      |
| 1646  | 1.2D+1L+1E      | Combination | Min      | -5.310505 | -2.050176 | -2.028056 | -0.000347     | -0.000800     |
| 1646  | 0.9D+1E         | Combination | Max      | 5.398216  | 1.934309  | 0.981285  | 0.000374      | 0.000716      |
| 1646  | 0.9D+1E         | Combination | Min      | -5.335731 | -2.022679 | -1.818322 | -0.000354     | -0.000776     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1646  | 1.2D+1L+1E<br>y | Combination | Max      | 1.453563  | 3.639308  | 1.424892  | 0.000703      | 0.000146      |
| 1646  | 1.2D+1L+1E<br>y | Combination | Min      | -1.340625 | -3.782672 | -2.681398 | -0.000670     | -0.000254     |
| 1646  | 0.9D+1Ey        | Combination | Max      | 1.428337  | 3.666806  | 1.634626  | 0.000696      | 0.000170      |
| 1646  | 0.9D+1Ey        | Combination | Min      | -1.365852 | -3.755175 | -2.471664 | -0.000677     | -0.000230     |
| 1646  | 1D+0.5L         | Combination |          | 0.042120  | -0.055479 | -0.500135 | 0.000013      | -0.000040     |
| 1647  | 1.4D            | Combination |          | 0.057724  | -0.020155 | -0.576453 | -0.000031     | 0.000013      |
| 1647  | 1.2D+1.6L       | Combination |          | 0.072974  | -0.024799 | -0.589456 | -0.000042     | 0.000017      |
| 1647  | 1.2D+1L+1E      | Combination | Max      | 5.482418  | 1.277268  | 1.075136  | 0.000172      | 0.001004      |
| 1647  | 1.2D+1L+1E      | Combination | Min      | -5.354093 | -1.321224 | -2.182532 | -0.000245     | -0.000974     |
| 1647  | 0.9D+1E         | Combination | Max      | 5.455364  | 1.286289  | 1.258257  | 0.000189      | 0.000997      |
| 1647  | 0.9D+1E         | Combination | Min      | -5.381147 | -1.312203 | -1.999410 | -0.000229     | -0.000980     |
| 1647  | 1.2D+1L+1E<br>y | Combination | Max      | 1.465329  | 3.666620  | 0.924612  | 0.000556      | 0.000271      |
| 1647  | 1.2D+1L+1E<br>y | Combination | Min      | -1.337003 | -3.710575 | -2.032008 | -0.000628     | -0.000241     |
| 1647  | 0.9D+1Ey        | Combination | Max      | 1.438274  | 3.675641  | 1.107734  | 0.000572      | 0.000265      |
| 1647  | 0.9D+1Ey        | Combination | Min      | -1.364058 | -3.701554 | -1.848887 | -0.000612     | -0.000248     |
| 1647  | 1D+0.5L         | Combination |          | 0.048574  | -0.016747 | -0.441550 | -0.000027     | 0.000011      |
| 1648  | 1.4D            | Combination |          | 0.027542  | 0.002402  | -0.553967 | 5.052E-06     | 7.845E-06     |
| 1648  | 1.2D+1.6L       | Combination |          | 0.042272  | -0.002654 | -0.560109 | 6.372E-06     | 0.000011      |
| 1648  | 1.2D+1L+1E      | Combination | Max      | 5.434633  | 1.324481  | 0.237772  | 0.000248      | 0.001019      |
| 1648  | 1.2D+1L+1E      | Combination | Min      | -5.364088 | -1.326254 | -1.294030 | -0.000237     | -0.001000     |
| 1648  | 0.9D+1E         | Combination | Max      | 5.417066  | 1.326911  | 0.409779  | 0.000246      | 0.001014      |
| 1648  | 0.9D+1E         | Combination | Min      | -5.381655 | -1.323823 | -1.122022 | -0.000240     | -0.001004     |
| 1648  | 1.2D+1L+1E<br>y | Combination | Max      | 1.431363  | 3.698863  | 0.944538  | 0.000684      | 0.000270      |
| 1648  | 1.2D+1L+1E<br>y | Combination | Min      | -1.360818 | -3.700636 | -2.000795 | -0.000672     | -0.000252     |
| 1648  | 0.9D+1Ey        | Combination | Max      | 1.413796  | 3.701293  | 1.116545  | 0.000681      | 0.000266      |
| 1648  | 0.9D+1Ey        | Combination | Min      | -1.378385 | -3.698205 | -1.828788 | -0.000675     | -0.000256     |
| 1648  | 1D+0.5L         | Combination |          | 0.025505  | 0.000243  | -0.422341 | 4.247E-06     | 6.883E-06     |
| 1649  | 1.4D            | Combination |          | 0.041385  | -0.056880 | -0.572839 | 5.270E-06     | 9.728E-06     |
| 1649  | 1.2D+1.6L       | Combination |          | 0.057933  | -0.062944 | -0.584495 | 6.537E-06     | 0.000013      |
| 1649  | 1.2D+1L+1E      | Combination | Max      | 5.430948  | 1.268324  | 0.222657  | 0.000248      | 0.001009      |
| 1649  | 1.2D+1L+1E      | Combination | Min      | -5.331926 | -1.383569 | -1.321530 | -0.000236     | -0.000987     |
| 1649  | 0.9D+1E         | Combination | Max      | 5.408042  | 1.289381  | 0.403840  | 0.000245      | 0.001004      |
| 1649  | 0.9D+1E         | Combination | Min      | -5.354832 | -1.362512 | -1.140347 | -0.000239     | -0.000991     |
| 1649  | 1.2D+1L+1E<br>y | Combination | Max      | 1.450877  | 3.641474  | 0.922653  | 0.000682      | 0.000271      |
| 1649  | 1.2D+1L+1E<br>y | Combination | Min      | -1.351855 | -3.756719 | -2.021526 | -0.000670     | -0.000248     |
| 1649  | 0.9D+1Ey        | Combination | Max      | 1.427971  | 3.662531  | 1.103836  | 0.000679      | 0.000266      |
| 1649  | 0.9D+1Ey        | Combination | Min      | -1.374761 | -3.735662 | -1.840343 | -0.000673     | -0.000253     |
| 1649  | 1D+0.5L         | Combination |          | 0.036580  | -0.045063 | -0.438386 | 4.396E-06     | 8.390E-06     |
| 1650  | 1.4D            | Combination |          | 0.068848  | -0.025489 | -0.596906 | 5.963E-06     | 0.000013      |
| 1650  | 1.2D+1.6L       | Combination |          | 0.086138  | -0.030122 | -0.616186 | 7.468E-06     | 0.000017      |
| 1650  | 1.2D+1L+1E      | Combination | Max      | 5.473486  | 1.272177  | 1.035193  | 0.000244      | 0.000997      |
| 1650  | 1.2D+1L+1E      | Combination | Min      | -5.321554 | -1.326216 | -2.189151 | -0.000231     | -0.000967     |
| 1650  | 0.9D+1E         | Combination | Max      | 5.441779  | 1.282811  | 1.228446  | 0.000241      | 0.000991      |
| 1650  | 0.9D+1E         | Combination | Min      | -5.353261 | -1.315583 | -1.995898 | -0.000233     | -0.000974     |
| 1650  | 1.2D+1L+1E<br>y | Combination | Max      | 1.480912  | 3.661179  | 0.901222  | 0.000672      | 0.000271      |
| 1650  | 1.2D+1L+1E<br>y | Combination | Min      | -1.328980 | -3.715217 | -2.055180 | -0.000659     | -0.000241     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1650  | 0.9D+1Ey   | Combination | Max      | 1.449205   | 3.671812  | 1.094476  | 0.000670      | 0.000264      |
| 1650  | 0.9D+1Ey   | Combination | Min      | -1.360686  | -3.704584 | -1.861927 | -0.000662     | -0.000247     |
| 1650  | 1D+0.5L    | Combination |          | 0.057654   | -0.020792 | -0.459034 | 4.996E-06     | 0.000011      |
| 1651  | 1.4D       | Combination |          | 0.036826   | 0.011423  | -0.488922 | 0.000015      | -3.433E-06    |
| 1651  | 1.2D+1.6L  | Combination |          | 0.052796   | 0.014906  | -0.457088 | 0.000021      | -3.598E-07    |
| 1651  | 1.2D+1L+1E | Combination | Max      | 5.399196   | 2.112423  | 2.338001  | 0.000398      | 0.001000      |
| 1651  | 1.2D+1L+1E | Combination | Min      | -5.309528  | -2.086446 | -3.223669 | -0.000361     | -0.001002     |
| 1651  | 0.9D+1E    | Combination | Max      | 5.378035   | 2.106778  | 2.466528  | 0.000389      | 0.000999      |
| 1651  | 0.9D+1E    | Combination | Min      | -5.330688  | -2.092091 | -3.095142 | -0.000370     | -0.001003     |
| 1651  | 1.2D+1L+1E | Combination | Max      | 1.429966   | 3.642909  | 0.637133  | 0.000658      | 0.000257      |
|       | y          |             |          |            |           |           |               |               |
| 1651  | 1.2D+1L+1E | Combination | Min      | -1.340298  | -3.616933 | -1.522800 | -0.000622     | -0.000260     |
|       | y          |             |          |            |           |           |               |               |
| 1651  | 0.9D+1Ey   | Combination | Max      | 1.408806   | 3.637264  | 0.765659  | 0.000650      | 0.000256      |
| 1651  | 0.9D+1Ey   | Combination | Min      | -1.361459  | -3.622578 | -1.394273 | -0.000630     | -0.000261     |
| 1651  | 1D+0.5L    | Combination |          | 0.032939   | 0.009758  | -0.361109 | 0.000013      | -1.645E-06    |
| 1652  | 1.4D       | Combination |          | 0.089978   | 0.034626  | -0.523763 | -2.056E-06    | 0.000021      |
| 1652  | 1.2D+1.6L  | Combination |          | 0.103147   | 0.039124  | -0.502168 | -3.624E-06    | 0.000023      |
| 1652  | 1.2D+1L+1E | Combination | Max      | 5.370755   | 2.364829  | 0.665016  | 0.000436      | 0.000987      |
| 1652  | 1.2D+1L+1E | Combination | Min      | -5.183978  | -2.293665 | -1.629431 | -0.000442     | -0.000944     |
| 1652  | 0.9D+1E    | Combination | Max      | 5.335210   | 2.351507  | 0.810519  | 0.000438      | 0.000980      |
| 1652  | 0.9D+1E    | Combination | Min      | -5.219523  | -2.306987 | -1.483929 | -0.000441     | -0.000952     |
| 1652  | 1.2D+1L+1E | Combination | Max      | 1.464084   | 3.584579  | 0.482615  | 0.000676      | 0.000274      |
|       | y          |             |          |            |           |           |               |               |
| 1652  | 1.2D+1L+1E | Combination | Min      | -1.277307  | -3.513415 | -1.447029 | -0.000682     | -0.000231     |
|       | y          |             |          |            |           |           |               |               |
| 1652  | 0.9D+1Ey   | Combination | Max      | 1.428538   | 3.571257  | 0.628117  | 0.000678      | 0.000266      |
| 1652  | 0.9D+1Ey   | Combination | Min      | -1.312852  | -3.526737 | -1.301527 | -0.000680     | -0.000239     |
| 1652  | 1D+0.5L    | Combination |          | 0.072402   | 0.027684  | -0.390750 | -2.050E-06    | 0.000017      |
| 1653  | 1.4D       | Combination |          | 0.039853   | -0.027883 | -0.518751 | -2.774E-07    | 6.781E-07     |
| 1653  | 1.2D+1.6L  | Combination |          | 0.057882   | -0.020605 | -0.492359 | -1.507E-06    | 1.011E-06     |
| 1653  | 1.2D+1L+1E | Combination | Max      | 5.430520   | 2.349564  | 1.174703  | 0.000442      | 0.000914      |
| 1653  | 1.2D+1L+1E | Combination | Min      | -5.332547  | -2.393245 | -2.123633 | -0.000444     | -0.000912     |
| 1653  | 0.9D+1E    | Combination | Max      | 5.407153   | 2.353479  | 1.315685  | 0.000442      | 0.000913      |
| 1653  | 0.9D+1E    | Combination | Min      | -5.355914  | -2.389330 | -1.982651 | -0.000443     | -0.000912     |
| 1653  | 1.2D+1L+1E | Combination | Max      | 1.449976   | 3.585381  | 1.602541  | 0.000682      | 0.000245      |
|       | y          |             |          |            |           |           |               |               |
| 1653  | 1.2D+1L+1E | Combination | Min      | -1.352004  | -3.629062 | -2.551472 | -0.000684     | -0.000244     |
|       | y          |             |          |            |           |           |               |               |
| 1653  | 0.9D+1Ey   | Combination | Max      | 1.426610   | 3.589296  | 1.743524  | 0.000683      | 0.000245      |
| 1653  | 0.9D+1Ey   | Combination | Min      | -1.375370  | -3.625147 | -2.410489 | -0.000683     | -0.000244     |
| 1653  | 1D+0.5L    | Combination |          | 0.035880   | -0.018887 | -0.385447 | -5.947E-07    | 6.188E-07     |
| 1654  | 1.4D       | Combination |          | 0.029761   | -0.011274 | -0.630345 | 8.018E-06     | 0.000021      |
| 1654  | 1.2D+1.6L  | Combination |          | 0.037306   | -0.034115 | -0.595931 | 0.000011      | 0.000028      |
| 1654  | 1.2D+1L+1E | Combination | Max      | 10.476867  | 3.923606  | 0.792422  | 0.000535      | 0.001428      |
| 1654  | 1.2D+1L+1E | Combination | Min      | -10.411102 | -3.973498 | -1.942557 | -0.000516     | -0.001380     |
| 1654  | 0.9D+1E    | Combination | Max      | 10.463117  | 3.941304  | 0.962268  | 0.000531      | 0.001417      |
| 1654  | 0.9D+1E    | Combination | Min      | -10.424852 | -3.955800 | -1.772712 | -0.000520     | -0.001391     |
| 1654  | 1.2D+1L+1E | Combination | Max      | 2.739798   | 5.986737  | 1.664271  | 0.000812      | 0.000388      |
|       | y          |             |          |            |           |           |               |               |
| 1654  | 1.2D+1L+1E | Combination | Min      | -2.674034  | -6.036629 | -2.814407 | -0.000793     | -0.000339     |
|       | y          |             |          |            |           |           |               |               |
| 1654  | 0.9D+1Ey   | Combination | Max      | 2.726048   | 6.004436  | 1.834117  | 0.000808      | 0.000377      |
| 1654  | 0.9D+1Ey   | Combination | Min      | -2.687784  | -6.018931 | -2.644561 | -0.000798     | -0.000350     |
| 1654  | 1D+0.5L    | Combination |          | 0.024944   | -0.015694 | -0.467632 | 6.957E-06     | 0.000018      |
| 1655  | 1.4D       | Combination |          | 0.002530   | -0.064746 | -0.658258 | 8.245E-06     | 0.000016      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1655  | 1.2D+1.6L       | Combination |          | 0.013618   | -0.085320 | -0.636975 | 0.000012      | 0.000018      |
| 1655  | 1.2D+1L+1E      | Combination | Max      | 9.914416   | 3.897153  | 1.268457  | 0.000554      | 0.001386      |
| 1655  | 1.2D+1L+1E      | Combination | Min      | -9.895767  | -4.045425 | -2.487841 | -0.000534     | -0.001354     |
| 1655  | 0.9D+1E         | Combination | Max      | 9.906718   | 3.929667  | 1.454983  | 0.000549      | 0.001380      |
| 1655  | 0.9D+1E         | Combination | Min      | -9.903465  | -4.012912 | -2.301314 | -0.000539     | -0.001359     |
| 1655  | 1.2D+1L+1E<br>y | Combination | Max      | 2.567914   | 5.911292  | 0.769039  | 0.000836      | 0.000370      |
| 1655  | 1.2D+1L+1E<br>y | Combination | Min      | -2.549265  | -6.059564 | -1.988423 | -0.000816     | -0.000337     |
| 1655  | 0.9D+1Ey        | Combination | Max      | 2.560216   | 5.943806  | 0.955565  | 0.000831      | 0.000364      |
| 1655  | 0.9D+1Ey        | Combination | Min      | -2.556963  | -6.027051 | -1.801896 | -0.000820     | -0.000343     |
| 1655  | 1D+0.5L         | Combination |          | 0.005385   | -0.055567 | -0.492920 | 7.355E-06     | 0.000013      |
| 1656  | 1.4D            | Combination |          | 0.055504   | -0.025666 | -0.686318 | -0.000013     | -1.959E-06    |
| 1656  | 1.2D+1.6L       | Combination |          | 0.065241   | -0.045201 | -0.672029 | -0.000018     | 1.237E-07     |
| 1656  | 1.2D+1L+1E      | Combination | Max      | 10.012352  | 3.381946  | 2.817794  | 0.000443      | 0.001322      |
| 1656  | 1.2D+1L+1E      | Combination | Min      | -9.895119  | -3.454947 | -4.099035 | -0.000475     | -0.001323     |
| 1656  | 0.9D+1E         | Combination | Max      | 9.989417   | 3.401947  | 3.017210  | 0.000451      | 0.001321      |
| 1656  | 0.9D+1E         | Combination | Min      | -9.918054  | -3.434946 | -3.899619 | -0.000467     | -0.001324     |
| 1656  | 1.2D+1L+1E<br>y | Combination | Max      | 2.630051   | 5.987790  | 0.871288  | 0.000830      | 0.000342      |
| 1656  | 1.2D+1L+1E<br>y | Combination | Min      | -2.512818  | -6.060791 | -2.152529 | -0.000861     | -0.000344     |
| 1656  | 0.9D+1Ey        | Combination | Max      | 2.607116   | 6.007791  | 1.070704  | 0.000837      | 0.000342      |
| 1656  | 0.9D+1Ey        | Combination | Min      | -2.535753  | -6.040790 | -1.953113 | -0.000854     | -0.000344     |
| 1656  | 1D+0.5L         | Combination |          | 0.045167   | -0.025583 | -0.516401 | -0.000011     | -8.358E-07    |
| 1657  | 1.4D            | Combination |          | 0.020420   | 0.000324  | -0.778488 | 7.157E-06     | 7.183E-06     |
| 1657  | 1.2D+1.6L       | Combination |          | 0.027755   | -0.009302 | -0.784153 | 8.780E-06     | 8.227E-06     |
| 1657  | 1.2D+1L+1E      | Combination | Max      | 10.475727  | 2.178279  | 0.244150  | 0.000304      | 0.001435      |
| 1657  | 1.2D+1L+1E      | Combination | Min      | -10.427906 | -2.189698 | -1.724798 | -0.000289     | -0.001420     |
| 1657  | 0.9D+1E         | Combination | Max      | 10.464944  | 2.184197  | 0.484017  | 0.000301      | 0.001432      |
| 1657  | 0.9D+1E         | Combination | Min      | -10.438690 | -2.183780 | -1.484931 | -0.000292     | -0.001423     |
| 1657  | 1.2D+1L+1E<br>y | Combination | Max      | 2.733640   | 6.081375  | 1.039524  | 0.000832      | 0.000377      |
| 1657  | 1.2D+1L+1E<br>y | Combination | Min      | -2.685819  | -6.092794 | -2.520171 | -0.000816     | -0.000362     |
| 1657  | 0.9D+1Ey        | Combination | Max      | 2.722857   | 6.087293  | 1.279390  | 0.000828      | 0.000374      |
| 1657  | 0.9D+1Ey        | Combination | Min      | -2.696603  | -6.086876 | -2.280304 | -0.000819     | -0.000365     |
| 1657  | 1D+0.5L         | Combination |          | 0.017789   | -0.002762 | -0.592587 | 5.939E-06     | 5.777E-06     |
| 1658  | 1.4D            | Combination |          | 0.049812   | -0.024179 | -0.793227 | -0.000021     | 5.684E-06     |
| 1658  | 1.2D+1.6L       | Combination |          | 0.057438   | -0.032616 | -0.801950 | -0.000029     | 7.155E-06     |
| 1658  | 1.2D+1L+1E      | Combination | Max      | 10.520527  | 2.117564  | 1.553472  | 0.000228      | 0.001416      |
| 1658  | 1.2D+1L+1E      | Combination | Min      | -10.416708 | -2.173878 | -3.065841 | -0.000277     | -0.001404     |
| 1658  | 0.9D+1E         | Combination | Max      | 10.500640  | 2.130178  | 1.799725  | 0.000239      | 0.001414      |
| 1658  | 0.9D+1E         | Combination | Min      | -10.436595 | -2.161265 | -2.819588 | -0.000266     | -0.001406     |
| 1658  | 1.2D+1L+1E<br>y | Combination | Max      | 2.764282   | 6.064788  | 1.063363  | 0.000676      | 0.000371      |
| 1658  | 1.2D+1L+1E<br>y | Combination | Min      | -2.660462  | -6.121102 | -2.575732 | -0.000726     | -0.000359     |
| 1658  | 0.9D+1Ey        | Combination | Max      | 2.744394   | 6.077402  | 1.309616  | 0.000687      | 0.000369      |
| 1658  | 0.9D+1Ey        | Combination | Min      | -2.680350  | -6.108489 | -2.329479 | -0.000714     | -0.000361     |
| 1658  | 1D+0.5L         | Combination |          | 0.040187   | -0.020987 | -0.604728 | -0.000018     | 4.773E-06     |
| 1659  | 1.4D            | Combination |          | 0.022285   | -0.057521 | -0.801509 | 5.083E-06     | 8.153E-06     |
| 1659  | 1.2D+1.6L       | Combination |          | 0.032545   | -0.067854 | -0.813670 | 6.220E-06     | 9.886E-06     |
| 1659  | 1.2D+1L+1E      | Combination | Max      | 10.051103  | 2.127963  | 0.325006  | 0.000304      | 0.001370      |
| 1659  | 1.2D+1L+1E      | Combination | Min      | -9.996096  | -2.249758 | -1.857349 | -0.000293     | -0.001352     |
| 1659  | 0.9D+1E         | Combination | Max      | 10.037926  | 2.151883  | 0.575921  | 0.000301      | 0.001366      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1659  | 0.9D+1E         | Combination | Min      | -10.009273 | -2.225838 | -1.606433 | -0.000295     | -0.001356     |
| 1659  | 1.2D+1L+1E<br>y | Combination | Max      | 2.614883   | 6.026239  | 0.967571  | 0.000833      | 0.000360      |
| 1659  | 1.2D+1L+1E<br>y | Combination | Min      | -2.559875  | -6.148034 | -2.499914 | -0.000822     | -0.000342     |
| 1659  | 0.9D+1Ey        | Combination | Max      | 2.601705   | 6.050159  | 1.218486  | 0.000831      | 0.000356      |
| 1659  | 0.9D+1Ey        | Combination | Min      | -2.573053  | -6.124114 | -2.248998 | -0.000824     | -0.000346     |
| 1659  | 1D+0.5L         | Combination |          | 0.020119   | -0.046883 | -0.612088 | 4.213E-06     | 6.729E-06     |
| 1660  | 1.4D            | Combination |          | 0.050938   | -0.030061 | -0.818961 | 0.000023      | 8.001E-06     |
| 1660  | 1.2D+1.6L       | Combination |          | 0.061712   | -0.038550 | -0.835219 | 0.000032      | 0.000010      |
| 1660  | 1.2D+1L+1E      | Combination | Max      | 10.088822  | 2.112215  | 1.253716  | 0.000284      | 0.001336      |
| 1660  | 1.2D+1L+1E      | Combination | Min      | -9.978935  | -2.179728 | -2.824215 | -0.000229     | -0.001318     |
| 1660  | 0.9D+1E         | Combination | Max      | 10.066624  | 2.126647  | 1.512490  | 0.000271      | 0.001332      |
| 1660  | 0.9D+1E         | Combination | Min      | -10.001133 | -2.165296 | -2.565440 | -0.000242     | -0.001321     |
| 1660  | 1.2D+1L+1E<br>y | Combination | Max      | 2.645769   | 6.059238  | 0.971107  | 0.000755      | 0.000352      |
| 1660  | 1.2D+1L+1E<br>y | Combination | Min      | -2.535882  | -6.126750 | -2.541606 | -0.000700     | -0.000334     |
| 1660  | 0.9D+1Ey        | Combination | Max      | 2.623571   | 6.073669  | 1.229882  | 0.000742      | 0.000348      |
| 1660  | 0.9D+1Ey        | Combination | Min      | -2.558080  | -6.112319 | -2.282832 | -0.000713     | -0.000338     |
| 1660  | 1D+0.5L         | Combination |          | 0.042025   | -0.025467 | -0.626614 | 0.000020      | 6.751E-06     |
| 1661  | 1.4D            | Combination |          | 0.044929   | 0.014533  | -0.765133 | 3.149E-06     | 2.711E-06     |
| 1661  | 1.2D+1.6L       | Combination |          | 0.052585   | 0.021481  | -0.777174 | 2.188E-06     | 2.604E-06     |
| 1661  | 1.2D+1L+1E      | Combination | Max      | 10.494305  | 4.389729  | 0.584578  | 0.000562      | 0.001367      |
| 1661  | 1.2D+1L+1E      | Combination | Min      | -10.399691 | -4.353535 | -2.047917 | -0.000557     | -0.001362     |
| 1661  | 0.9D+1E         | Combination | Max      | 10.475881  | 4.380974  | 0.824376  | 0.000562      | 0.001367      |
| 1661  | 0.9D+1E         | Combination | Min      | -10.418115 | -4.362290 | -1.808118 | -0.000558     | -0.001363     |
| 1661  | 1.2D+1L+1E<br>y | Combination | Max      | 2.755372   | 6.357293  | 1.393991  | 0.000820      | 0.000356      |
| 1661  | 1.2D+1L+1E<br>y | Combination | Min      | -2.660758  | -6.321100 | -2.857330 | -0.000815     | -0.000351     |
| 1661  | 0.9D+1Ey        | Combination | Max      | 2.736948   | 6.348539  | 1.633790  | 0.000819      | 0.000355      |
| 1661  | 0.9D+1Ey        | Combination | Min      | -2.679182  | -6.329854 | -2.617532 | -0.000815     | -0.000351     |
| 1661  | 1D+0.5L         | Combination |          | 0.036490   | 0.013200  | -0.584444 | 2.090E-06     | 2.024E-06     |
| 1662  | 1.4D            | Combination |          | 0.082055   | -0.038881 | -0.772726 | 3.865E-06     | -2.734E-06    |
| 1662  | 1.2D+1.6L       | Combination |          | 0.092773   | -0.032636 | -0.780598 | 3.653E-06     | -1.206E-06    |
| 1662  | 1.2D+1L+1E      | Combination | Max      | 10.000114  | 4.358240  | 1.121341  | 0.000592      | 0.001364      |
| 1662  | 1.2D+1L+1E      | Combination | Min      | -9.831398  | -4.424029 | -2.593841 | -0.000585     | -0.001368     |
| 1662  | 0.9D+1E         | Combination | Max      | 9.968506   | 4.366140  | 1.360838  | 0.000591      | 0.001364      |
| 1662  | 0.9D+1E         | Combination | Min      | -9.863006  | -4.416129 | -2.354343 | -0.000586     | -0.001368     |
| 1662  | 1.2D+1L+1E<br>y | Combination | Max      | 2.647578   | 6.297514  | 0.838700  | 0.000856      | 0.000351      |
| 1662  | 1.2D+1L+1E<br>y | Combination | Min      | -2.478862  | -6.363304 | -2.311200 | -0.000849     | -0.000354     |
| 1662  | 0.9D+1Ey        | Combination | Max      | 2.615970   | 6.305414  | 1.078197  | 0.000855      | 0.000350      |
| 1662  | 0.9D+1Ey        | Combination | Min      | -2.510470  | -6.355404 | -2.071702 | -0.000850     | -0.000354     |
| 1662  | 1D+0.5L         | Combination |          | 0.065623   | -0.027556 | -0.588904 | 2.867E-06     | -1.598E-06    |
| 1663  | 1.4D            | Combination |          | 0.104497   | -0.069664 | -0.841934 | 0.000022      | 2.482E-06     |
| 1663  | 1.2D+1.6L       | Combination |          | 0.130731   | -0.085766 | -0.864411 | 0.000031      | 6.146E-06     |
| 1663  | 1.2D+1L+1E      | Combination | Max      | 8.928996   | 2.763871  | 2.640095  | 0.000413      | 0.001173      |
| 1663  | 1.2D+1L+1E      | Combination | Min      | -8.698406  | -2.915863 | -4.261852 | -0.000361     | -0.001164     |
| 1663  | 0.9D+1E         | Combination | Max      | 8.880878   | 2.795083  | 2.909730  | 0.000401      | 0.001170      |
| 1663  | 0.9D+1E         | Combination | Min      | -8.746525  | -2.884651 | -3.992216 | -0.000373     | -0.001167     |
| 1663  | 1.2D+1L+1E<br>y | Combination | Max      | 2.393408   | 6.028550  | 0.669174  | 0.000826      | 0.000308      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1663  | 1.2D+1L+1E<br>y | Combination | Min      | -2.162817 | -6.180542 | -2.290931 | -0.000773     | -0.000299     |
| 1663  | 0.9D+1Ey        | Combination | Max      | 2.345289  | 6.059762  | 0.938809  | 0.000814      | 0.000305      |
| 1663  | 0.9D+1Ey        | Combination | Min      | -2.210936 | -6.149330 | -2.021296 | -0.000785     | -0.000302     |
| 1663  | 1D+0.5L         | Combination |          | 0.087504  | -0.057902 | -0.645992 | 0.000019      | 3.028E-06     |
| 1664  | 1.4D            | Combination |          | 0.040712  | -0.033322 | -0.796007 | 0.000010      | 0.000021      |
| 1664  | 1.2D+1.6L       | Combination |          | 0.065699  | -0.051039 | -0.804330 | 0.000013      | 0.000024      |
| 1664  | 1.2D+1L+1E      | Combination | Max      | 8.804449  | 3.192394  | 0.539012  | 0.000455      | 0.001229      |
| 1664  | 1.2D+1L+1E      | Combination | Min      | -8.696153 | -3.277614 | -2.056144 | -0.000432     | -0.001185     |
| 1664  | 0.9D+1E         | Combination | Max      | 8.776473  | 3.213583  | 0.785859  | 0.000450      | 0.001220      |
| 1664  | 0.9D+1E         | Combination | Min      | -8.724129 | -3.256425 | -1.809297 | -0.000437     | -0.001193     |
| 1664  | 1.2D+1L+1E<br>y | Combination | Max      | 2.316528  | 6.050416  | 0.534807  | 0.000853      | 0.000334      |
| 1664  | 1.2D+1L+1E<br>y | Combination | Min      | -2.208232 | -6.135636 | -2.051939 | -0.000830     | -0.000290     |
| 1664  | 0.9D+1Ey        | Combination | Max      | 2.288553  | 6.071604  | 0.781654  | 0.000848      | 0.000325      |
| 1664  | 0.9D+1Ey        | Combination | Min      | -2.236208 | -6.114447 | -1.805092 | -0.000835     | -0.000298     |
| 1664  | 1D+0.5L         | Combination |          | 0.038706  | -0.030825 | -0.606714 | 8.584E-06     | 0.000017      |
| 1665  | 1.4D            | Combination |          | 0.086445  | -0.097049 | -0.850593 | 0.000014      | -0.000044     |
| 1665  | 1.2D+1.6L       | Combination |          | 0.115086  | -0.116061 | -0.875513 | 0.000019      | -0.000059     |
| 1665  | 1.2D+1L+1E      | Combination | Max      | 8.918789  | 3.153195  | 0.928489  | 0.000455      | 0.000848      |
| 1665  | 1.2D+1L+1E      | Combination | Min      | -8.719360 | -3.360659 | -2.569691 | -0.000422     | -0.000949     |
| 1665  | 0.9D+1E         | Combination | Max      | 8.874646  | 3.194539  | 1.202280  | 0.000448      | 0.000870      |
| 1665  | 0.9D+1E         | Combination | Min      | -8.763502 | -3.319316 | -2.295900 | -0.000429     | -0.000927     |
| 1665  | 1.2D+1L+1E<br>y | Combination | Max      | 2.394135  | 6.023411  | 1.709956  | 0.000848      | 0.000191      |
| 1665  | 1.2D+1L+1E<br>y | Combination | Min      | -2.194706 | -6.230876 | -3.351157 | -0.000815     | -0.000292     |
| 1665  | 0.9D+1Ey        | Combination | Max      | 2.349992  | 6.064755  | 1.983747  | 0.000841      | 0.000213      |
| 1665  | 0.9D+1Ey        | Combination | Min      | -2.238848 | -6.189532 | -3.077367 | -0.000822     | -0.000270     |
| 1665  | 1D+0.5L         | Combination |          | 0.074556  | -0.079594 | -0.653327 | 0.000012      | -0.000038     |
| 1666  | 1.4D            | Combination |          | 0.090765  | -0.033835 | -0.755312 | -0.000030     | 0.000012      |
| 1666  | 1.2D+1.6L       | Combination |          | 0.116507  | -0.042094 | -0.772180 | -0.000041     | 0.000016      |
| 1666  | 1.2D+1L+1E      | Combination | Max      | 8.981981  | 2.107039  | 1.232192  | 0.000219      | 0.001194      |
| 1666  | 1.2D+1L+1E      | Combination | Min      | -8.777998 | -2.181407 | -2.682974 | -0.000289     | -0.001166     |
| 1666  | 0.9D+1E         | Combination | Max      | 8.938339  | 2.122472  | 1.472026  | 0.000235      | 0.001188      |
| 1666  | 0.9D+1E         | Combination | Min      | -8.821641 | -2.165974 | -2.443140 | -0.000273     | -0.001172     |
| 1666  | 1.2D+1L+1E<br>y | Combination | Max      | 2.397199  | 6.050755  | 1.120787  | 0.000686      | 0.000320      |
| 1666  | 1.2D+1L+1E<br>y | Combination | Min      | -2.193216 | -6.125123 | -2.571570 | -0.000756     | -0.000291     |
| 1666  | 0.9D+1Ey        | Combination | Max      | 2.353557  | 6.066188  | 1.360621  | 0.000701      | 0.000313      |
| 1666  | 0.9D+1Ey        | Combination | Min      | -2.236859 | -6.109690 | -2.331736 | -0.000740     | -0.000298     |
| 1666  | 1D+0.5L         | Combination |          | 0.076929  | -0.028259 | -0.578499 | -0.000026     | 0.000011      |
| 1667  | 1.4D            | Combination |          | 0.061978  | -0.014007 | -0.727750 | 5.745E-06     | 0.000013      |
| 1667  | 1.2D+1.6L       | Combination |          | 0.087209  | -0.023306 | -0.736173 | 7.448E-06     | 0.000017      |
| 1667  | 1.2D+1L+1E      | Combination | Max      | 8.939932  | 2.165575  | 0.242821  | 0.000302      | 0.001225      |
| 1667  | 1.2D+1L+1E      | Combination | Min      | -8.791078 | -2.203713 | -1.630876 | -0.000289     | -0.001195     |
| 1667  | 0.9D+1E         | Combination | Max      | 8.905348  | 2.175639  | 0.469009  | 0.000299      | 0.001219      |
| 1667  | 0.9D+1E         | Combination | Min      | -8.825662 | -2.193649 | -1.404688 | -0.000292     | -0.001202     |
| 1667  | 1.2D+1L+1E<br>y | Combination | Max      | 2.365542  | 6.078194  | 1.135248  | 0.000831      | 0.000328      |
| 1667  | 1.2D+1L+1E<br>y | Combination | Min      | -2.216687 | -6.116331 | -2.523303 | -0.000818     | -0.000297     |
| 1667  | 0.9D+1Ey        | Combination | Max      | 2.330957  | 6.088258  | 1.361436  | 0.000828      | 0.000321      |
| 1667  | 0.9D+1Ey        | Combination | Min      | -2.251271 | -6.106267 | -2.297115 | -0.000821     | -0.000304     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm  | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|-----------|-----------|-----------|---------------|---------------|
| 1667  | 1D+0.5L    | Combination |          | 0.054922  | -0.013536 | -0.554942 | 4.892E-06     | 0.000011      |
| 1668  | 1.4D       | Combination |          | 0.079700  | -0.071551 | -0.751971 | 4.879E-06     | 0.000015      |
| 1668  | 1.2D+1.6L  | Combination |          | 0.108133  | -0.081883 | -0.767669 | 6.514E-06     | 0.000019      |
| 1668  | 1.2D+1L+1E | Combination | Max      | 8.927408  | 2.111070  | 0.225554  | 0.000300      | 0.001211      |
| 1668  | 1.2D+1L+1E | Combination | Min      | -8.741005 | -2.259420 | -1.668551 | -0.000289     | -0.001178     |
| 1668  | 0.9D+1E    | Combination | Max      | 8.885442  | 2.139248  | 0.463643  | 0.000298      | 0.001204      |
| 1668  | 0.9D+1E    | Combination | Min      | -8.782970 | -2.231242 | -1.430462 | -0.000291     | -0.001185     |
| 1668  | 1.2D+1L+1E | Combination | Max      | 2.391843  | 6.023110  | 1.108735  | 0.000828      | 0.000327      |
|       | y          |             |          |           |           |           |               |               |
| 1668  | 1.2D+1L+1E | Combination | Min      | -2.205441 | -6.171461 | -2.551731 | -0.000816     | -0.000294     |
|       | y          |             |          |           |           |           |               |               |
| 1668  | 0.9D+1Ey   | Combination | Max      | 2.349878  | 6.051289  | 1.346823  | 0.000825      | 0.000320      |
| 1668  | 0.9D+1Ey   | Combination | Min      | -2.247406 | -6.143282 | -2.313642 | -0.000819     | -0.000301     |
| 1668  | 1D+0.5L    | Combination |          | 0.069372  | -0.057531 | -0.575598 | 4.214E-06     | 0.000012      |
| 1669  | 1.4D       | Combination |          | 0.106006  | -0.039030 | -0.781413 | 7.492E-06     | 0.000014      |
| 1669  | 1.2D+1.6L  | Combination |          | 0.135164  | -0.047294 | -0.806536 | 9.383E-06     | 0.000018      |
| 1669  | 1.2D+1L+1E | Combination | Max      | 8.964302  | 2.102525  | 1.177498  | 0.000297      | 0.001188      |
| 1669  | 1.2D+1L+1E | Combination | Min      | -8.727199 | -2.186733 | -2.688005 | -0.000280     | -0.001156     |
| 1669  | 0.9D+1E    | Combination | Max      | 8.913898  | 2.119539  | 1.430414  | 0.000293      | 0.001181      |
| 1669  | 0.9D+1E    | Combination | Min      | -8.777604 | -2.169720 | -2.435089 | -0.000284     | -0.001163     |
| 1669  | 1.2D+1L+1E | Combination | Max      | 2.419540  | 6.046780  | 1.090849  | 0.000819      | 0.000321      |
|       | y          |             |          |           |           |           |               |               |
| 1669  | 1.2D+1L+1E | Combination | Min      | -2.182437 | -6.130988 | -2.601357 | -0.000803     | -0.000289     |
|       | y          |             |          |           |           |           |               |               |
| 1669  | 0.9D+1Ey   | Combination | Max      | 2.369135  | 6.063793  | 1.343766  | 0.000816      | 0.000314      |
| 1669  | 0.9D+1Ey   | Combination | Min      | -2.232841 | -6.113974 | -2.348440 | -0.000806     | -0.000296     |
| 1669  | 1D+0.5L    | Combination |          | 0.089563  | -0.032203 | -0.600888 | 6.277E-06     | 0.000012      |
| 1670  | 1.4D       | Combination |          | 0.072298  | 0.012049  | -0.643369 | 0.000015      | 0.000020      |
| 1670  | 1.2D+1.6L  | Combination |          | 0.098533  | 0.017823  | -0.601753 | 0.000022      | 0.000022      |
| 1670  | 1.2D+1L+1E | Combination | Max      | 8.876531  | 3.476079  | 2.810385  | 0.000481      | 0.001185      |
| 1670  | 1.2D+1L+1E | Combination | Min      | -8.706888 | -3.446054 | -3.976171 | -0.000444     | -0.001144     |
| 1670  | 0.9D+1E    | Combination | Max      | 8.838187  | 3.468812  | 2.979683  | 0.000473      | 0.001177      |
| 1670  | 0.9D+1E    | Combination | Min      | -8.745232 | -3.453320 | -3.806873 | -0.000453     | -0.001152     |
| 1670  | 1.2D+1L+1E | Combination | Max      | 2.358656  | 6.032193  | 0.777964  | 0.000803      | 0.000323      |
|       | y          |             |          |           |           |           |               |               |
| 1670  | 1.2D+1L+1E | Combination | Min      | -2.189012 | -6.002168 | -1.943750 | -0.000766     | -0.000282     |
|       | y          |             |          |           |           |           |               |               |
| 1670  | 0.9D+1Ey   | Combination | Max      | 2.320312  | 6.024926  | 0.947262  | 0.000795      | 0.000315      |
| 1670  | 0.9D+1Ey   | Combination | Min      | -2.227357 | -6.009434 | -1.774452 | -0.000775     | -0.000290     |
| 1670  | 1D+0.5L    | Combination |          | 0.063067  | 0.010949  | -0.475266 | 0.000014      | 0.000016      |
| 1671  | 1.4D       | Combination |          | 0.124575  | 0.036931  | -0.686146 | -1.790E-06    | 2.637E-06     |
| 1671  | 1.2D+1.6L  | Combination |          | 0.148067  | 0.045051  | -0.657755 | -3.364E-06    | 6.656E-06     |
| 1671  | 1.2D+1L+1E | Combination | Max      | 8.859615  | 3.901675  | 0.754301  | 0.000526      | 0.001215      |
| 1671  | 1.2D+1L+1E | Combination | Min      | -8.594448 | -3.821620 | -2.017589 | -0.000531     | -0.001205     |
| 1671  | 0.9D+1E    | Combination | Max      | 8.807115  | 3.885389  | 0.944851  | 0.000527      | 0.001212      |
| 1671  | 0.9D+1E    | Combination | Min      | -8.646948 | -3.837906 | -1.827039 | -0.000530     | -0.001208     |
| 1671  | 1.2D+1L+1E | Combination | Max      | 2.394081  | 5.963833  | 0.563591  | 0.000824      | 0.000317      |
|       | y          |             |          |           |           |           |               |               |
| 1671  | 1.2D+1L+1E | Combination | Min      | -2.128914 | -5.883778 | -1.826878 | -0.000829     | -0.000307     |
|       | y          |             |          |           |           |           |               |               |
| 1671  | 0.9D+1Ey   | Combination | Max      | 2.341581  | 5.947547  | 0.754140  | 0.000825      | 0.000314      |
| 1671  | 0.9D+1Ey   | Combination | Min      | -2.181414 | -5.900064 | -1.636329 | -0.000827     | -0.000311     |
| 1671  | 1D+0.5L    | Combination |          | 0.101885  | 0.030565  | -0.511864 | -1.850E-06    | 3.257E-06     |
| 1672  | 1.4D       | Combination |          | 0.078122  | -0.023940 | -0.681699 | -1.612E-06    | 2.062E-06     |
| 1672  | 1.2D+1.6L  | Combination |          | 0.107941  | -0.013173 | -0.647785 | -2.727E-06    | 2.703E-06     |
| 1672  | 1.2D+1L+1E | Combination | Max      | 8.930841  | 3.881628  | 1.437764  | 0.000527      | 0.001098      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1672  | 1.2D+1L+1E      | Combination | Min      | -8.745694  | -3.913484 | -2.685730 | -0.000532     | -0.001094     |
| 1672  | 0.9D+1E         | Combination | Max      | 8.888489   | 3.882166  | 1.623512  | 0.000528      | 0.001097      |
| 1672  | 0.9D+1E         | Combination | Min      | -8.788046  | -3.912945 | -2.499983 | -0.000531     | -0.001095     |
| 1672  | 1.2D+1L+1E<br>y | Combination | Max      | 2.391931   | 5.957185  | 1.952870  | 0.000824      | 0.000296      |
| 1672  | 1.2D+1L+1E<br>y | Combination | Min      | -2.206783  | -5.989041 | -3.200836 | -0.000828     | -0.000292     |
| 1672  | 0.9D+1Ey        | Combination | Max      | 2.349578   | 5.957724  | 2.138618  | 0.000825      | 0.000295      |
| 1672  | 0.9D+1Ey        | Combination | Min      | -2.249136  | -5.988503 | -3.015088 | -0.000827     | -0.000293     |
| 1672  | 1D+0.5L         | Combination |          | 0.068607   | -0.014804 | -0.506763 | -1.572E-06    | 1.766E-06     |
| 1673  | 1.4D            | Combination |          | 0.051719   | -0.035819 | -0.772657 | 7.964E-06     | 0.000022      |
| 1673  | 1.2D+1.6L       | Combination |          | 0.063576   | -0.069534 | -0.730786 | 0.000012      | 0.000030      |
| 1673  | 1.2D+1L+1E      | Combination | Max      | 15.222727  | 5.693659  | 0.881187  | 0.000607      | 0.001606      |
| 1673  | 1.2D+1L+1E      | Combination | Min      | -15.110008 | -5.803603 | -2.291377 | -0.000587     | -0.001554     |
| 1673  | 0.9D+1E         | Combination | Max      | 15.199616  | 5.725605  | 1.089574  | 0.000602      | 0.001595      |
| 1673  | 0.9D+1E         | Combination | Min      | -15.133120 | -5.771658 | -2.082990 | -0.000592     | -0.001566     |
| 1673  | 1.2D+1L+1E<br>y | Combination | Max      | 3.983939   | 8.776977  | 1.876978  | 0.000949      | 0.000435      |
| 1673  | 1.2D+1L+1E<br>y | Combination | Min      | -3.871220  | -8.886921 | -3.287168 | -0.000929     | -0.000383     |
| 1673  | 0.9D+1Ey        | Combination | Max      | 3.960828   | 8.808922  | 2.085365  | 0.000944      | 0.000423      |
| 1673  | 0.9D+1Ey        | Combination | Min      | -3.894332  | -8.854976 | -3.078781 | -0.000934     | -0.000394     |
| 1673  | 1D+0.5L         | Combination |          | 0.042957   | -0.037720 | -0.573307 | 7.150E-06     | 0.000019      |
| 1674  | 1.4D            | Combination |          | 0.027625   | -0.086981 | -0.809241 | 8.493E-06     | 1.975E-06     |
| 1674  | 1.2D+1.6L       | Combination |          | 0.044407   | -0.118560 | -0.783264 | 0.000013      | 4.253E-06     |
| 1674  | 1.2D+1L+1E      | Combination | Max      | 14.475588  | 5.666367  | 1.393118  | 0.000627      | 0.001526      |
| 1674  | 1.2D+1L+1E      | Combination | Min      | -14.402321 | -5.870483 | -2.892425 | -0.000605     | -0.001519     |
| 1674  | 0.9D+1E         | Combination | Max      | 14.456713  | 5.712509  | 1.622545  | 0.000622      | 0.001524      |
| 1674  | 0.9D+1E         | Combination | Min      | -14.421195 | -5.824342 | -2.662998 | -0.000611     | -0.001521     |
| 1674  | 1.2D+1L+1E<br>y | Combination | Max      | 3.763723   | 8.711426  | 0.875414  | 0.000976      | 0.000397      |
| 1674  | 1.2D+1L+1E<br>y | Combination | Min      | -3.690455  | -8.915542 | -2.374721 | -0.000954     | -0.000390     |
| 1674  | 0.9D+1Ey        | Combination | Max      | 3.744848   | 8.757567  | 1.104841  | 0.000970      | 0.000394      |
| 1674  | 0.9D+1Ey        | Combination | Min      | -3.709330  | -8.869400 | -2.145294 | -0.000960     | -0.000392     |
| 1674  | 1D+0.5L         | Combination |          | 0.026210   | -0.075881 | -0.606038 | 7.786E-06     | 2.211E-06     |
| 1675  | 1.4D            | Combination |          | 0.077160   | -0.048455 | -0.844107 | -0.000010     | 0.000016      |
| 1675  | 1.2D+1.6L       | Combination |          | 0.092695   | -0.077648 | -0.826570 | -0.000016     | 0.000018      |
| 1675  | 1.2D+1L+1E      | Combination | Max      | 14.556009  | 4.923481  | 3.142766  | 0.000506      | 0.001541      |
| 1675  | 1.2D+1L+1E      | Combination | Min      | -14.390538 | -5.051690 | -4.718618 | -0.000532     | -0.001508     |
| 1675  | 0.9D+1E         | Combination | Max      | 14.522876  | 4.956436  | 3.388052  | 0.000512      | 0.001535      |
| 1675  | 0.9D+1E         | Combination | Min      | -14.423671 | -5.018735 | -4.473332 | -0.000526     | -0.001515     |
| 1675  | 1.2D+1L+1E<br>y | Combination | Max      | 3.819286   | 8.780339  | 0.989398  | 0.000959      | 0.000410      |
| 1675  | 1.2D+1L+1E<br>y | Combination | Min      | -3.653815  | -8.908549 | -2.565250 | -0.000985     | -0.000377     |
| 1675  | 0.9D+1Ey        | Combination | Max      | 3.786154   | 8.813295  | 1.234683  | 0.000965      | 0.000404      |
| 1675  | 0.9D+1Ey        | Combination | Min      | -3.686948  | -8.875594 | -2.319964 | -0.000978     | -0.000383     |
| 1675  | 1D+0.5L         | Combination |          | 0.063413   | -0.045897 | -0.635137 | -9.489E-06    | 0.000013      |
| 1676  | 1.4D            | Combination |          | 0.042910   | -0.018917 | -0.956221 | 6.093E-06     | 6.478E-06     |
| 1676  | 1.2D+1.6L       | Combination |          | 0.054560   | -0.033837 | -0.963344 | 8.025E-06     | 7.713E-06     |
| 1676  | 1.2D+1L+1E      | Combination | Max      | 15.221873  | 3.172282  | 0.224133  | 0.000352      | 0.001610      |
| 1676  | 1.2D+1L+1E      | Combination | Min      | -15.126089 | -3.226739 | -2.043027 | -0.000338     | -0.001597     |
| 1676  | 0.9D+1E         | Combination | Max      | 15.201566  | 3.187349  | 0.518866  | 0.000348      | 0.001608      |
| 1676  | 0.9D+1E         | Combination | Min      | -15.146396 | -3.211671 | -1.748294 | -0.000341     | -0.001599     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1676  | 1.2D+1L+1E<br>y | Combination | Max      | 3.977870   | 8.883574  | 1.160647  | 0.000965      | 0.000421      |
| 1676  | 1.2D+1L+1E<br>y | Combination | Min      | -3.882085  | -8.938031 | -2.979541 | -0.000951     | -0.000407     |
| 1676  | 0.9D+1Ey        | Combination | Max      | 3.957563   | 8.898642  | 1.455380  | 0.000962      | 0.000418      |
| 1676  | 0.9D+1Ey        | Combination | Min      | -3.902393  | -8.922963 | -2.684808 | -0.000954     | -0.000410     |
| 1676  | 1D+0.5L         | Combination |          | 0.036206   | -0.019019 | -0.727930 | 5.228E-06     | 5.302E-06     |
| 1677  | 1.4D            | Combination |          | 0.071132   | -0.041178 | -0.974181 | -0.000016     | 9.568E-06     |
| 1677  | 1.2D+1.6L       | Combination |          | 0.083064   | -0.054203 | -0.984980 | -0.000024     | 0.000011      |
| 1677  | 1.2D+1L+1E      | Combination | Max      | 15.260468  | 3.094492  | 1.671587  | 0.000269      | 0.001601      |
| 1677  | 1.2D+1L+1E      | Combination | Min      | -15.110910 | -3.188718 | -3.529072 | -0.000310     | -0.001581     |
| 1677  | 0.9D+1E         | Combination | Max      | 15.231417  | 3.115133  | 1.974070  | 0.000279      | 0.001597      |
| 1677  | 0.9D+1E         | Combination | Min      | -15.139961 | -3.168076 | -3.226589 | -0.000300     | -0.001585     |
| 1677  | 1.2D+1L+1E<br>y | Combination | Max      | 4.006381   | 8.873130  | 1.196872  | 0.000783      | 0.000421      |
| 1677  | 1.2D+1L+1E<br>y | Combination | Min      | -3.856823  | -8.967356 | -3.054357 | -0.000824     | -0.000401     |
| 1677  | 0.9D+1Ey        | Combination | Max      | 3.977330   | 8.893771  | 1.499355  | 0.000793      | 0.000417      |
| 1677  | 0.9D+1Ey        | Combination | Min      | -3.885874  | -8.946715 | -2.751874 | -0.000814     | -0.000405     |
| 1677  | 1D+0.5L         | Combination |          | 0.057713   | -0.035322 | -0.742709 | -0.000015     | 7.845E-06     |
| 1678  | 1.4D            | Combination |          | 0.046858   | -0.074374 | -0.985235 | 4.499E-06     | 8.040E-06     |
| 1678  | 1.2D+1.6L       | Combination |          | 0.062861   | -0.089993 | -1.000405 | 5.956E-06     | 0.000010      |
| 1678  | 1.2D+1L+1E      | Combination | Max      | 14.603556  | 3.123297  | 0.315641  | 0.000351      | 0.001541      |
| 1678  | 1.2D+1L+1E      | Combination | Min      | -14.494856 | -3.283599 | -2.199513 | -0.000341     | -0.001524     |
| 1678  | 0.9D+1E         | Combination | Max      | 14.579329  | 3.155636  | 0.624211  | 0.000349      | 0.001538      |
| 1678  | 0.9D+1E         | Combination | Min      | -14.519083 | -3.251260 | -1.890943 | -0.000343     | -0.001527     |
| 1678  | 1.2D+1L+1E<br>y | Combination | Max      | 3.807967   | 8.830919  | 1.076143  | 0.000967      | 0.000404      |
| 1678  | 1.2D+1L+1E<br>y | Combination | Min      | -3.699268  | -8.991222 | -2.960015 | -0.000957     | -0.000386     |
| 1678  | 0.9D+1Ey        | Combination | Max      | 3.783740   | 8.863259  | 1.384713  | 0.000965      | 0.000400      |
| 1678  | 0.9D+1Ey        | Combination | Min      | -3.723495  | -8.958882 | -2.651444 | -0.000959     | -0.000390     |
| 1678  | 1D+0.5L         | Combination |          | 0.040563   | -0.061325 | -0.752464 | 3.869E-06     | 6.722E-06     |
| 1679  | 1.4D            | Combination |          | 0.074395   | -0.046870 | -1.006402 | 0.000020      | 0.000012      |
| 1679  | 1.2D+1.6L       | Combination |          | 0.090901   | -0.059953 | -1.026431 | 0.000030      | 0.000014      |
| 1679  | 1.2D+1L+1E      | Combination | Max      | 14.637010  | 3.089064  | 1.327460  | 0.000319      | 0.001510      |
| 1679  | 1.2D+1L+1E      | Combination | Min      | -14.475558 | -3.194136 | -3.257472 | -0.000270     | -0.001485     |
| 1679  | 0.9D+1E         | Combination | Max      | 14.604109  | 3.111469  | 1.645494  | 0.000307      | 0.001505      |
| 1679  | 0.9D+1E         | Combination | Min      | -14.508459 | -3.171731 | -2.939439 | -0.000282     | -0.001490     |
| 1679  | 1.2D+1L+1E<br>y | Combination | Max      | 3.836874   | 8.867149  | 1.077455  | 0.000859      | 0.000399      |
| 1679  | 1.2D+1L+1E<br>y | Combination | Min      | -3.675422  | -8.972221 | -3.007467 | -0.000809     | -0.000374     |
| 1679  | 0.9D+1Ey        | Combination | Max      | 3.803973   | 8.889554  | 1.395488  | 0.000847      | 0.000394      |
| 1679  | 0.9D+1Ey        | Combination | Min      | -3.708323  | -8.949816 | -2.689434 | -0.000822     | -0.000379     |
| 1679  | 1D+0.5L         | Combination |          | 0.061618   | -0.039660 | -0.770046 | 0.000018      | 9.626E-06     |
| 1680  | 1.4D            | Combination |          | 0.066439   | 0.007855  | -0.938481 | 2.754E-06     | 4.540E-06     |
| 1680  | 1.2D+1.6L       | Combination |          | 0.078348   | 0.017442  | -0.952871 | 1.773E-06     | 4.656E-06     |
| 1680  | 1.2D+1L+1E      | Combination | Max      | 15.239550  | 6.321212  | 0.595260  | 0.000630      | 0.001540      |
| 1680  | 1.2D+1L+1E      | Combination | Min      | -15.098904 | -6.294360 | -2.389658 | -0.000626     | -0.001532     |
| 1680  | 0.9D+1E         | Combination | Max      | 15.211938  | 6.312836  | 0.889150  | 0.000630      | 0.001539      |
| 1680  | 0.9D+1E         | Combination | Min      | -15.126516 | -6.302737 | -2.095768 | -0.000626     | -0.001533     |
| 1680  | 1.2D+1L+1E<br>y | Combination | Max      | 3.998708   | 9.242968  | 1.508439  | 0.000943      | 0.000402      |
| 1680  | 1.2D+1L+1E<br>y | Combination | Min      | -3.858062  | -9.216116 | -3.302837 | -0.000939     | -0.000393     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1680  | 0.9D+1Ey   | Combination | Max      | 3.971096   | 9.234592  | 1.802329  | 0.000943      | 0.000400      |
| 1680  | 0.9D+1Ey   | Combination | Min      | -3.885674  | -9.224493 | -3.008947 | -0.000939     | -0.000394     |
| 1680  | 1D+0.5L    | Combination |          | 0.054144   | 0.008957  | -0.716737 | 1.784E-06     | 3.482E-06     |
| 1681  | 1.4D       | Combination |          | 0.103368   | -0.043325 | -0.949983 | 3.572E-06     | 0.000017      |
| 1681  | 1.2D+1.6L  | Combination |          | 0.119649   | -0.034417 | -0.960089 | 3.367E-06     | 0.000019      |
| 1681  | 1.2D+1L+1E | Combination | Max      | 14.556876  | 6.290058  | 1.201169  | 0.000662      | 0.001534      |
| 1681  | 1.2D+1L+1E | Combination | Min      | -14.340864 | -6.360931 | -3.011983 | -0.000655     | -0.001500     |
| 1681  | 0.9D+1E    | Combination | Max      | 14.515321  | 6.297643  | 1.495873  | 0.000661      | 0.001528      |
| 1681  | 0.9D+1E    | Combination | Min      | -14.382419 | -6.353347 | -2.717279 | -0.000656     | -0.001507     |
| 1681  | 1.2D+1L+1E | Combination | Max      | 3.838303   | 9.191369  | 0.941103  | 0.000984      | 0.000409      |
|       | y          |             |          |            |           |           |               |               |
| 1681  | 1.2D+1L+1E | Combination | Min      | -3.622291  | -9.262242 | -2.751918 | -0.000977     | -0.000374     |
|       | y          |             |          |            |           |           |               |               |
| 1681  | 0.9D+1Ey   | Combination | Max      | 3.796748   | 9.198953  | 1.235807  | 0.000983      | 0.000402      |
| 1681  | 0.9D+1Ey   | Combination | Min      | -3.663846  | -9.254657 | -2.457214 | -0.000978     | -0.000381     |
| 1681  | 1D+0.5L    | Combination |          | 0.083537   | -0.030097 | -0.724127 | 2.647E-06     | 0.000013      |
| 1682  | 1.4D       | Combination |          | 0.142707   | -0.099437 | -1.033144 | 0.000023      | 0.000023      |
| 1682  | 1.2D+1.6L  | Combination |          | 0.181600   | -0.124552 | -1.060546 | 0.000032      | 0.000028      |
| 1682  | 1.2D+1L+1E | Combination | Max      | 12.967367  | 4.049399  | 2.948289  | 0.000471      | 0.001381      |
| 1682  | 1.2D+1L+1E | Combination | Min      | -12.648626 | -4.269013 | -4.938135 | -0.000417     | -0.001331     |
| 1682  | 0.9D+1E    | Combination | Max      | 12.899737  | 4.095282  | 3.279048  | 0.000459      | 0.001371      |
| 1682  | 0.9D+1E    | Combination | Min      | -12.716256 | -4.223130 | -4.607376 | -0.000430     | -0.001341     |
| 1682  | 1.2D+1L+1E | Combination | Max      | 3.468571   | 8.846333  | 0.744836  | 0.000945      | 0.000375      |
|       | y          |             |          |            |           |           |               |               |
| 1682  | 1.2D+1L+1E | Combination | Min      | -3.149830  | -9.065948 | -2.734682 | -0.000891     | -0.000325     |
|       | y          |             |          |            |           |           |               |               |
| 1682  | 0.9D+1Ey   | Combination | Max      | 3.400941   | 8.892217  | 1.075595  | 0.000933      | 0.000365      |
| 1682  | 0.9D+1Ey   | Combination | Min      | -3.217460  | -9.020065 | -2.403923 | -0.000904     | -0.000335     |
| 1682  | 1D+0.5L    | Combination |          | 0.120459   | -0.083314 | -0.792645 | 0.000020      | 0.000019      |
| 1683  | 1.4D       | Combination |          | 0.083107   | -0.069319 | -0.979488 | 0.000013      | 4.294E-06     |
| 1683  | 1.2D+1.6L  | Combination |          | 0.120836   | -0.097514 | -0.990179 | 0.000017      | 8.001E-06     |
| 1683  | 1.2D+1L+1E | Combination | Max      | 12.863293  | 4.660190  | 0.537746  | 0.000528      | 0.001342      |
| 1683  | 1.2D+1L+1E | Combination | Min      | -12.658822 | -4.826645 | -2.405140 | -0.000499     | -0.001329     |
| 1683  | 0.9D+1E    | Combination | Max      | 12.814484  | 4.698855  | 0.841772  | 0.000521      | 0.001338      |
| 1683  | 0.9D+1E    | Combination | Min      | -12.707632 | -4.787979 | -2.101114 | -0.000505     | -0.001333     |
| 1683  | 1.2D+1L+1E | Combination | Max      | 3.399343   | 8.875625  | 0.580197  | 0.000995      | 0.000352      |
|       | y          |             |          |            |           |           |               |               |
| 1683  | 1.2D+1L+1E | Combination | Min      | -3.194872  | -9.042080 | -2.447592 | -0.000966     | -0.000339     |
|       | y          |             |          |            |           |           |               |               |
| 1683  | 0.9D+1Ey   | Combination | Max      | 3.350534   | 8.914291  | 0.884224  | 0.000989      | 0.000348      |
| 1683  | 0.9D+1Ey   | Combination | Min      | -3.243681  | -9.003415 | -2.143565 | -0.000972     | -0.000342     |
| 1683  | 1D+0.5L    | Combination |          | 0.074863   | -0.061419 | -0.746702 | 0.000011      | 4.417E-06     |
| 1684  | 1.4D       | Combination |          | 0.131563   | -0.130308 | -1.041478 | 0.000017      | -0.000043     |
| 1684  | 1.2D+1.6L  | Combination |          | 0.174586   | -0.159751 | -1.071649 | 0.000023      | -0.000057     |
| 1684  | 1.2D+1L+1E | Combination | Max      | 12.956725  | 4.619571  | 1.039146  | 0.000528      | 0.000966      |
| 1684  | 1.2D+1L+1E | Combination | Min      | -12.653917 | -4.903030 | -3.048228 | -0.000488     | -0.001065     |
| 1684  | 0.9D+1E    | Combination | Max      | 12.889897  | 4.677531  | 1.374165  | 0.000519      | 0.000988      |
| 1684  | 0.9D+1E    | Combination | Min      | -12.720745 | -4.845070 | -2.713209 | -0.000497     | -0.001043     |
| 1684  | 1.2D+1L+1E | Combination | Max      | 3.480646   | 8.843267  | 1.919241  | 0.000989      | 0.000223      |
|       | y          |             |          |            |           |           |               |               |
| 1684  | 1.2D+1L+1E | Combination | Min      | -3.177837  | -9.126726 | -3.928324 | -0.000949     | -0.000323     |
|       | y          |             |          |            |           |           |               |               |
| 1684  | 0.9D+1Ey   | Combination | Max      | 3.413818   | 8.901227  | 2.254261  | 0.000980      | 0.000245      |
| 1684  | 0.9D+1Ey   | Combination | Min      | -3.244665  | -9.068766 | -3.593304 | -0.000957     | -0.000301     |
| 1684  | 1D+0.5L    | Combination |          | 0.113291   | -0.108096 | -0.799836 | 0.000015      | -0.000037     |
| 1685  | 1.4D       | Combination |          | 0.130794   | -0.051227 | -0.926793 | -0.000030     | 0.000017      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm  | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|-----------|-----------|---------------|---------------|
| 1685  | 1.2D+1.6L       | Combination |          | 0.169231   | -0.064129 | -0.947414 | -0.000040     | 0.000022      |
| 1685  | 1.2D+1L+1E      | Combination | Max      | 13.028776  | 3.084020  | 1.325350  | 0.000257      | 0.001352      |
| 1685  | 1.2D+1L+1E      | Combination | Min      | -12.733156 | -3.197112 | -3.105413 | -0.000326     | -0.001314     |
| 1685  | 0.9D+1E         | Combination | Max      | 12.965048  | 3.107634  | 1.619586  | 0.000273      | 0.001344      |
| 1685  | 0.9D+1E         | Combination | Min      | -12.796885 | -3.173497 | -2.811177 | -0.000311     | -0.001322     |
| 1685  | 1.2D+1L+1E<br>y | Combination | Max      | 3.475697   | 8.860303  | 1.264008  | 0.000792      | 0.000363      |
| 1685  | 1.2D+1L+1E<br>y | Combination | Min      | -3.180077  | -8.973395 | -3.044071 | -0.000861     | -0.000326     |
| 1685  | 0.9D+1Ey        | Combination | Max      | 3.411969   | 8.883918  | 1.558244  | 0.000808      | 0.000355      |
| 1685  | 0.9D+1Ey        | Combination | Min      | -3.243806  | -8.949780 | -2.749836 | -0.000846     | -0.000334     |
| 1685  | 1D+0.5L         | Combination |          | 0.111275   | -0.042909 | -0.709814 | -0.000026     | 0.000014      |
| 1686  | 1.4D            | Combination |          | 0.103131   | -0.034384 | -0.894910 | 7.624E-06     | 0.000013      |
| 1686  | 1.2D+1.6L       | Combination |          | 0.141064   | -0.049088 | -0.905661 | 9.707E-06     | 0.000018      |
| 1686  | 1.2D+1L+1E      | Combination | Max      | 12.991251  | 3.157548  | 0.223185  | 0.000353      | 0.001378      |
| 1686  | 1.2D+1L+1E      | Combination | Min      | -12.748623 | -3.241011 | -1.930560 | -0.000336     | -0.001347     |
| 1686  | 0.9D+1E         | Combination | Max      | 12.936235  | 3.177176  | 0.501573  | 0.000349      | 0.001371      |
| 1686  | 0.9D+1E         | Combination | Min      | -12.803638 | -3.221383 | -1.652172 | -0.000339     | -0.001354     |
| 1686  | 1.2D+1L+1E<br>y | Combination | Max      | 3.445883   | 8.884838  | 1.275051  | 0.000969      | 0.000367      |
| 1686  | 1.2D+1L+1E<br>y | Combination | Min      | -3.203255  | -8.968302 | -2.982427 | -0.000952     | -0.000336     |
| 1686  | 0.9D+1Ey        | Combination | Max      | 3.390867   | 8.904466  | 1.553440  | 0.000965      | 0.000360      |
| 1686  | 0.9D+1Ey        | Combination | Min      | -3.258270  | -8.948674 | -2.704038 | -0.000955     | -0.000343     |
| 1686  | 1D+0.5L         | Combination |          | 0.090123   | -0.030690 | -0.682532 | 6.437E-06     | 0.000012      |
| 1687  | 1.4D            | Combination |          | 0.125085   | -0.089648 | -0.924487 | 6.907E-06     | 0.000015      |
| 1687  | 1.2D+1.6L       | Combination |          | 0.167896   | -0.105395 | -0.944228 | 8.926E-06     | 0.000020      |
| 1687  | 1.2D+1L+1E      | Combination | Max      | 12.963083  | 3.105296  | 0.205756  | 0.000351      | 0.001361      |
| 1687  | 1.2D+1L+1E      | Combination | Min      | -12.672801 | -3.294671 | -1.980354 | -0.000336     | -0.001326     |
| 1687  | 0.9D+1E         | Combination | Max      | 12.898354  | 3.142352  | 0.498742  | 0.000348      | 0.001353      |
| 1687  | 0.9D+1E         | Combination | Min      | -12.737530 | -3.257615 | -1.687368 | -0.000339     | -0.001334     |
| 1687  | 1.2D+1L+1E<br>y | Combination | Max      | 3.477901   | 8.832470  | 1.244576  | 0.000965      | 0.000366      |
| 1687  | 1.2D+1L+1E<br>y | Combination | Min      | -3.187618  | -9.021844 | -3.019174 | -0.000950     | -0.000331     |
| 1687  | 0.9D+1Ey        | Combination | Max      | 3.413172   | 8.869526  | 1.537562  | 0.000962      | 0.000358      |
| 1687  | 0.9D+1Ey        | Combination | Min      | -3.252348  | -8.984788 | -2.726188 | -0.000953     | -0.000339     |
| 1687  | 1D+0.5L         | Combination |          | 0.108309   | -0.072958 | -0.707789 | 5.873E-06     | 0.000013      |
| 1688  | 1.4D            | Combination |          | 0.150367   | -0.056170 | -0.958429 | 8.905E-06     | 0.000017      |
| 1688  | 1.2D+1.6L       | Combination |          | 0.193884   | -0.069087 | -0.989196 | 0.000011      | 0.000023      |
| 1688  | 1.2D+1L+1E      | Combination | Max      | 12.995231  | 3.080123  | 1.251653  | 0.000340      | 0.001341      |
| 1688  | 1.2D+1L+1E      | Combination | Min      | -12.656211 | -3.202591 | -3.104281 | -0.000321     | -0.001301     |
| 1688  | 0.9D+1E         | Combination | Max      | 12.922386  | 3.105247  | 1.561835  | 0.000336      | 0.001332      |
| 1688  | 0.9D+1E         | Combination | Min      | -12.729057 | -3.177466 | -2.794100 | -0.000325     | -0.001310     |
| 1688  | 1.2D+1L+1E<br>y | Combination | Max      | 3.503554   | 8.857680  | 1.228883  | 0.000940      | 0.000363      |
| 1688  | 1.2D+1L+1E<br>y | Combination | Min      | -3.164534  | -8.980148 | -3.081511 | -0.000920     | -0.000323     |
| 1688  | 0.9D+1Ey        | Combination | Max      | 3.430709   | 8.882805  | 1.539064  | 0.000936      | 0.000354      |
| 1688  | 0.9D+1Ey        | Combination | Min      | -3.237379  | -8.955023 | -2.771330 | -0.000925     | -0.000332     |
| 1688  | 1D+0.5L         | Combination |          | 0.127717   | -0.046666 | -0.736994 | 7.471E-06     | 0.000015      |
| 1689  | 1.4D            | Combination |          | 0.114985   | 0.011171  | -0.791844 | 0.000016      | 4.993E-06     |
| 1689  | 1.2D+1.6L       | Combination |          | 0.153734   | 0.019386  | -0.740956 | 0.000022      | 9.286E-06     |
| 1689  | 1.2D+1L+1E      | Combination | Max      | 12.910483  | 5.069820  | 3.157108  | 0.000546      | 0.001361      |
| 1689  | 1.2D+1L+1E      | Combination | Min      | -12.644396 | -5.038407 | -4.592346 | -0.000508     | -0.001346     |
| 1689  | 0.9D+1E         | Combination | Max      | 12.851359  | 5.061295  | 3.365684  | 0.000537      | 0.001357      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1689  | 0.9D+1E    | Combination | Min      | -12.703520 | -5.046933  | -4.383770 | -0.000517     | -0.001351     |
| 1689  | 1.2D+1L+1E | Combination | Max      | 3.436020   | 8.852111   | 0.881868  | 0.000919      | 0.000357      |
|       | y          |             |          |            |            |           |               |               |
| 1689  | 1.2D+1L+1E | Combination | Min      | -3.169934  | -8.820698  | -2.317106 | -0.000882     | -0.000342     |
|       | y          |             |          |            |            |           |               |               |
| 1689  | 0.9D+1Ey   | Combination | Max      | 3.376896   | 8.843586   | 1.090444  | 0.000910      | 0.000352      |
| 1689  | 0.9D+1Ey   | Combination | Min      | -3.229058  | -8.829224  | -2.108530 | -0.000890     | -0.000346     |
| 1689  | 1D+0.5L    | Combination |          | 0.099375   | 0.011045   | -0.585051 | 0.000014      | 5.131E-06     |
| 1690  | 1.4D       | Combination |          | 0.163830   | 0.038237   | -0.841961 | -1.317E-06    | 0.000021      |
| 1690  | 1.2D+1.6L  | Combination |          | 0.200021   | 0.050338   | -0.806984 | -3.174E-06    | 0.000025      |
| 1690  | 1.2D+1L+1E | Combination | Max      | 12.906976  | 5.704786   | 0.798837  | 0.000610      | 0.001360      |
| 1690  | 1.2D+1L+1E | Combination | Min      | -12.551630 | -5.617282  | -2.348827 | -0.000615     | -0.001316     |
| 1690  | 0.9D+1E    | Combination | Max      | 12.834622  | 5.685615   | 1.032571  | 0.000612      | 0.001351      |
| 1690  | 0.9D+1E    | Combination | Min      | -12.623984 | -5.636453  | -2.115093 | -0.000614     | -0.001325     |
| 1690  | 1.2D+1L+1E | Combination | Max      | 3.471335   | 8.785584   | 0.616042  | 0.000965      | 0.000368      |
|       | y          |             |          |            |            |           |               |               |
| 1690  | 1.2D+1L+1E | Combination | Min      | -3.115990  | -8.698080  | -2.166033 | -0.000970     | -0.000324     |
|       | y          |             |          |            |            |           |               |               |
| 1690  | 0.9D+1Ey   | Combination | Max      | 3.398981   | 8.766414   | 0.849777  | 0.000967      | 0.000359      |
| 1690  | 0.9D+1Ey   | Combination | Min      | -3.188343  | -8.717251  | -1.932298 | -0.000968     | -0.000333     |
| 1690  | 1D+0.5L    | Combination |          | 0.135645   | 0.032801   | -0.628058 | -1.580E-06    | 0.000017      |
| 1691  | 1.4D       | Combination |          | 0.123765   | -0.020176  | -0.839185 | -9.980E-07    | 4.195E-06     |
| 1691  | 1.2D+1.6L  | Combination |          | 0.167896   | -0.005595  | -0.798370 | -2.406E-06    | 5.022E-06     |
| 1691  | 1.2D+1L+1E | Combination | Max      | 12.971595  | 5.680271   | 1.641655  | 0.000613      | 0.001241      |
| 1691  | 1.2D+1L+1E | Combination | Min      | -12.682162 | -5.700236  | -3.179094 | -0.000616     | -0.001232     |
| 1691  | 0.9D+1E    | Combination | Max      | 12.906442  | 5.677283   | 1.870899  | 0.000614      | 0.001239      |
| 1691  | 0.9D+1E    | Combination | Min      | -12.747315 | -5.703224  | -2.949851 | -0.000615     | -0.001233     |
| 1691  | 1.2D+1L+1E | Combination | Max      | 3.479427   | 8.771319   | 2.225691  | 0.000966      | 0.000336      |
|       | y          |             |          |            |            |           |               |               |
| 1691  | 1.2D+1L+1E | Combination | Min      | -3.189994  | -8.791284  | -3.763130 | -0.000969     | -0.000327     |
|       | y          |             |          |            |            |           |               |               |
| 1691  | 0.9D+1Ey   | Combination | Max      | 3.414274   | 8.768331   | 2.454934  | 0.000967      | 0.000334      |
| 1691  | 0.9D+1Ey   | Combination | Min      | -3.255148  | -8.794272  | -3.533886 | -0.000968     | -0.000329     |
| 1691  | 1D+0.5L    | Combination |          | 0.107720   | -0.010756  | -0.624127 | -1.197E-06    | 3.442E-06     |
| 1692  | 1.4D       | Combination |          | 0.078559   | -0.066521  | -0.908856 | 0.000012      | 0.000024      |
| 1692  | 1.2D+1.6L  | Combination |          | 0.095635   | -0.113021  | -0.859958 | 0.000016      | 0.000032      |
| 1692  | 1.2D+1L+1E | Combination | Max      | 20.449182  | 7.643358   | 0.936844  | 0.000662      | 0.001743      |
| 1692  | 1.2D+1L+1E | Combination | Min      | -20.279136 | -7.827398  | -2.596055 | -0.000635     | -0.001687     |
| 1692  | 0.9D+1E    | Combination | Max      | 20.414661  | 7.692615   | 1.182185  | 0.000656      | 0.001730      |
| 1692  | 0.9D+1E    | Combination | Min      | -20.313656 | -7.778142  | -2.350714 | -0.000641     | -0.001699     |
| 1692  | 1.2D+1L+1E | Combination | Max      | 5.354378   | 11.931654  | 2.029857  | 0.001056      | 0.000471      |
|       | y          |             |          |            |            |           |               |               |
| 1692  | 1.2D+1L+1E | Combination | Min      | -5.184332  | -12.115694 | -3.689068 | -0.001029     | -0.000415     |
|       | y          |             |          |            |            |           |               |               |
| 1692  | 0.9D+1Ey   | Combination | Max      | 5.319857   | 11.980910  | 2.275198  | 0.001050      | 0.000458      |
| 1692  | 0.9D+1Ey   | Combination | Min      | -5.218853  | -12.066437 | -3.443727 | -0.001035     | -0.000428     |
| 1692  | 1D+0.5L    | Combination |          | 0.064957   | -0.065016  | -0.674476 | 0.000010      | 0.000021      |
| 1693  | 1.4D       | Combination |          | 0.056785   | -0.115529  | -0.954143 | 0.000012      | 0.000016      |
| 1693  | 1.2D+1.6L  | Combination |          | 0.080393   | -0.160015  | -0.923726 | 0.000017      | 0.000018      |
| 1693  | 1.2D+1L+1E | Combination | Max      | 19.507167  | 7.615641   | 1.471135  | 0.000682      | 0.001694      |
| 1693  | 1.2D+1L+1E | Combination | Min      | -19.370170 | -7.889928  | -3.239170 | -0.000654     | -0.001661     |
| 1693  | 0.9D+1E    | Combination | Max      | 19.475173  | 7.678516   | 1.741774  | 0.000676      | 0.001687      |
| 1693  | 0.9D+1E    | Combination | Min      | -19.402164 | -7.827053  | -2.968530 | -0.000661     | -0.001667     |
| 1693  | 1.2D+1L+1E | Combination | Max      | 5.083036   | 11.875040  | 0.960002  | 0.001086      | 0.000448      |
|       | y          |             |          |            |            |           |               |               |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1693  | 1.2D+1L+1E<br>y | Combination | Min      | -4.946040  | -12.149327 | -2.728037 | -0.001058     | -0.000415     |
| 1693  | 0.9D+1Ey        | Combination | Max      | 5.051043   | 11.937915  | 1.230642  | 0.001080      | 0.000442      |
| 1693  | 0.9D+1Ey        | Combination | Min      | -4.978033  | -12.086452 | -2.457397 | -0.001064     | -0.000422     |
| 1693  | 1D+0.5L         | Combination |          | 0.050473   | -0.101580  | -0.714621 | 0.000010      | 0.000013      |
| 1694  | 1.4D            | Combination |          | 0.105456   | -0.077051  | -0.995518 | -9.249E-06    | 5.312E-06     |
| 1694  | 1.2D+1.6L       | Combination |          | 0.127856   | -0.117637  | -0.974905 | -0.000014     | 8.045E-06     |
| 1694  | 1.2D+1L+1E      | Combination | Max      | 19.577907  | 6.627328   | 3.358708  | 0.000557      | 0.001646      |
| 1694  | 1.2D+1L+1E      | Combination | Min      | -19.350293 | -6.823907  | -5.217315 | -0.000581     | -0.001633     |
| 1694  | 0.9D+1E         | Combination | Max      | 19.531893  | 6.676085   | 3.648036  | 0.000563      | 0.001643      |
| 1694  | 0.9D+1E         | Combination | Min      | -19.396306 | -6.775150  | -4.927988 | -0.000575     | -0.001636     |
| 1694  | 1.2D+1L+1E<br>y | Combination | Max      | 5.135657   | 11.932334  | 1.073051  | 0.001070      | 0.000430      |
| 1694  | 1.2D+1L+1E<br>y | Combination | Min      | -4.908043  | -12.128914 | -2.931659 | -0.001094     | -0.000416     |
| 1694  | 0.9D+1Ey        | Combination | Max      | 5.089643   | 11.981091  | 1.362379  | 0.001076      | 0.000427      |
| 1694  | 0.9D+1Ey        | Combination | Min      | -4.954056  | -12.080157 | -2.642331 | -0.001088     | -0.000420     |
| 1694  | 1D+0.5L         | Combination |          | 0.087034   | -0.071159  | -0.749086 | -8.466E-06    | 4.886E-06     |
| 1695  | 1.4D            | Combination |          | 0.070053   | -0.041956  | -1.126495 | 8.976E-06     | 9.364E-06     |
| 1695  | 1.2D+1.6L       | Combination |          | 0.086904   | -0.063269  | -1.135043 | 0.000011      | 0.000011      |
| 1695  | 1.2D+1L+1E      | Combination | Max      | 20.448404  | 4.290553   | 0.186495  | 0.000393      | 0.001752      |
| 1695  | 1.2D+1L+1E      | Combination | Min      | -20.294740 | -4.396610  | -2.329474 | -0.000373     | -0.001733     |
| 1695  | 0.9D+1E         | Combination | Max      | 20.416606  | 4.316610   | 0.533808  | 0.000388      | 0.001749      |
| 1695  | 0.9D+1E         | Combination | Min      | -20.326539 | -4.370553  | -1.982160 | -0.000377     | -0.001736     |
| 1695  | 1.2D+1L+1E<br>y | Combination | Max      | 5.348248   | 12.039006  | 1.240965  | 0.001073      | 0.000460      |
| 1695  | 1.2D+1L+1E<br>y | Combination | Min      | -5.194584  | -12.145064 | -3.383944 | -0.001053     | -0.000440     |
| 1695  | 0.9D+1Ey        | Combination | Max      | 5.316450   | 12.065064  | 1.588278  | 0.001069      | 0.000456      |
| 1695  | 0.9D+1Ey        | Combination | Min      | -5.226383  | -12.119007 | -3.036630 | -0.001057     | -0.000444     |
| 1695  | 1D+0.5L         | Combination |          | 0.058431   | -0.038502  | -0.857601 | 7.535E-06     | 7.591E-06     |
| 1696  | 1.4D            | Combination |          | 0.097062   | -0.061853  | -1.147555 | -0.000012     | 9.647E-06     |
| 1696  | 1.2D+1.6L       | Combination |          | 0.114189   | -0.080470  | -1.160374 | -0.000019     | 0.000012      |
| 1696  | 1.2D+1L+1E      | Combination | Max      | 20.481603  | 4.192524   | 1.723368  | 0.000305      | 0.001734      |
| 1696  | 1.2D+1L+1E      | Combination | Min      | -20.276469 | -4.332874  | -3.911550 | -0.000337     | -0.001713     |
| 1696  | 0.9D+1E         | Combination | Max      | 20.441433  | 4.222936   | 2.079745  | 0.000314      | 0.001730      |
| 1696  | 0.9D+1E         | Combination | Min      | -20.316639 | -4.302461  | -3.555173 | -0.000328     | -0.001717     |
| 1696  | 1.2D+1L+1E<br>y | Combination | Max      | 5.374712   | 12.032342  | 1.287074  | 0.000876      | 0.000455      |
| 1696  | 1.2D+1L+1E<br>y | Combination | Min      | -5.169579  | -12.172693 | -3.475255 | -0.000908     | -0.000434     |
| 1696  | 0.9D+1Ey        | Combination | Max      | 5.334542   | 12.062755  | 1.643451  | 0.000884      | 0.000451      |
| 1696  | 0.9D+1Ey        | Combination | Min      | -5.209748  | -12.142280 | -3.118878 | -0.000899     | -0.000439     |
| 1696  | 1D+0.5L         | Combination |          | 0.079015   | -0.052760  | -0.874918 | -0.000011     | 7.981E-06     |
| 1697  | 1.4D            | Combination |          | 0.076428   | -0.095140  | -1.161421 | 7.571E-06     | 0.000011      |
| 1697  | 1.2D+1.6L       | Combination |          | 0.099249   | -0.117144  | -1.179556 | 9.410E-06     | 0.000013      |
| 1697  | 1.2D+1L+1E      | Combination | Max      | 19.625911  | 4.242958   | 0.284899  | 0.000392      | 0.001679      |
| 1697  | 1.2D+1L+1E      | Combination | Min      | -19.452718 | -4.450549  | -2.505973 | -0.000376     | -0.001655     |
| 1697  | 0.9D+1E         | Combination | Max      | 19.588447  | 4.285592   | 0.648808  | 0.000389      | 0.001674      |
| 1697  | 0.9D+1E         | Combination | Min      | -19.490182 | -4.407915  | -2.142064 | -0.000379     | -0.001660     |
| 1697  | 1.2D+1L+1E<br>y | Combination | Max      | 5.124984   | 11.988772  | 1.145840  | 0.001075      | 0.000441      |
| 1697  | 1.2D+1L+1E<br>y | Combination | Min      | -4.951790  | -12.196364 | -3.366913 | -0.001059     | -0.000417     |
| 1697  | 0.9D+1Ey        | Combination | Max      | 5.087519   | 12.031407  | 1.509749  | 0.001072      | 0.000436      |
| 1697  | 0.9D+1Ey        | Combination | Min      | -4.989254  | -12.153730 | -3.003005 | -0.001062     | -0.000422     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1697  | 1D+0.5L    | Combination |          | 0.065135   | -0.079081  | -0.887103 | 6.321E-06     | 8.969E-06     |
| 1698  | 1.4D       | Combination |          | 0.102832   | -0.067420  | -1.186237 | 0.000014      | 0.000012      |
| 1698  | 1.2D+1.6L  | Combination |          | 0.126144   | -0.086106  | -1.209949 | 0.000025      | 0.000015      |
| 1698  | 1.2D+1L+1E | Combination | Max      | 19.655638  | 4.187222   | 1.344962  | 0.000347      | 0.001639      |
| 1698  | 1.2D+1L+1E | Combination | Min      | -19.431851 | -4.338196  | -3.619979 | -0.000306     | -0.001613     |
| 1698  | 0.9D+1E    | Combination | Max      | 19.609851  | 4.219367   | 1.719890  | 0.000336      | 0.001634      |
| 1698  | 0.9D+1E    | Combination | Min      | -19.477638 | -4.306050  | -3.245051 | -0.000317     | -0.001618     |
| 1698  | 1.2D+1L+1E | Combination | Max      | 5.152054   | 12.026640  | 1.141426  | 0.000945      | 0.000433      |
|       | y          |             |          |            |            |           |               |               |
| 1698  | 1.2D+1L+1E | Combination | Min      | -4.928267  | -12.177614 | -3.416443 | -0.000905     | -0.000406     |
|       | y          |             |          |            |            |           |               |               |
| 1698  | 0.9D+1Ey   | Combination | Max      | 5.106267   | 12.058786  | 1.516354  | 0.000934      | 0.000427      |
| 1698  | 0.9D+1Ey   | Combination | Min      | -4.974054  | -12.145469 | -3.041515 | -0.000915     | -0.000412     |
| 1698  | 1D+0.5L    | Combination |          | 0.085327   | -0.057006  | -0.907679 | 0.000014      | 0.000010      |
| 1699  | 1.4D       | Combination |          | 0.092417   | -0.001719  | -1.104153 | 5.031E-06     | 5.534E-06     |
| 1699  | 1.2D+1.6L  | Combination |          | 0.109464   | 0.010463   | -1.120696 | 4.045E-06     | 5.868E-06     |
| 1699  | 1.2D+1L+1E | Combination | Max      | 20.463574  | 8.426856   | 0.571764  | 0.000681      | 0.001673      |
| 1699  | 1.2D+1L+1E | Combination | Min      | -20.267333 | -8.414882  | -2.682447 | -0.000672     | -0.001662     |
| 1699  | 0.9D+1E    | Combination | Max      | 20.424865  | 8.419764   | 0.917293  | 0.000680      | 0.001671      |
| 1699  | 0.9D+1E    | Combination | Min      | -20.306042 | -8.421974  | -2.336918 | -0.000673     | -0.001664     |
| 1699  | 1.2D+1L+1E | Combination | Max      | 5.367532   | 12.465964  | 1.562632  | 0.001040      | 0.000437      |
|       | y          |             |          |            |            |           |               |               |
| 1699  | 1.2D+1L+1E | Combination | Min      | -5.171291  | -12.453990 | -3.673315 | -0.001032     | -0.000426     |
|       | y          |             |          |            |            |           |               |               |
| 1699  | 0.9D+1Ey   | Combination | Max      | 5.328823   | 12.458872  | 1.908161  | 0.001039      | 0.000435      |
| 1699  | 0.9D+1Ey   | Combination | Min      | -5.210001  | -12.461082 | -3.327787 | -0.001033     | -0.000428     |
| 1699  | 1D+0.5L    | Combination |          | 0.075465   | 0.002502   | -0.843143 | 3.510E-06     | 4.304E-06     |
| 1700  | 1.4D       | Combination |          | 0.130728   | -0.050711  | -1.120267 | 5.485E-06     | 4.335E-06     |
| 1700  | 1.2D+1.6L  | Combination |          | 0.153695   | -0.039181  | -1.132634 | 5.307E-06     | 6.625E-06     |
| 1700  | 1.2D+1L+1E | Combination | Max      | 19.585074  | 8.396348   | 1.234358  | 0.000713      | 0.001677      |
| 1700  | 1.2D+1L+1E | Combination | Min      | -19.308915 | -8.477924  | -3.370322 | -0.000703     | -0.001666     |
| 1700  | 0.9D+1E    | Combination | Max      | 19.531034  | 8.404536   | 1.582168  | 0.000711      | 0.001674      |
| 1700  | 0.9D+1E    | Combination | Min      | -19.362955 | -8.469736  | -3.022512 | -0.000704     | -0.001669     |
| 1700  | 1.2D+1L+1E | Combination | Max      | 5.154388   | 12.421957  | 1.018315  | 0.001085      | 0.000436      |
|       | y          |             |          |            |            |           |               |               |
| 1700  | 1.2D+1L+1E | Combination | Min      | -4.878229  | -12.503533 | -3.154279 | -0.001074     | -0.000425     |
|       | y          |             |          |            |            |           |               |               |
| 1700  | 0.9D+1Ey   | Combination | Max      | 5.100348   | 12.430145  | 1.366125  | 0.001083      | 0.000433      |
| 1700  | 0.9D+1Ey   | Combination | Min      | -4.932269  | -12.495346 | -2.806469 | -0.001076     | -0.000428     |
| 1700  | 1D+0.5L    | Combination |          | 0.106391   | -0.034883  | -0.854067 | 4.107E-06     | 4.006E-06     |
| 1701  | 1.4D       | Combination |          | 0.188150   | -0.133210  | -1.215831 | 0.000023      | 0.000011      |
| 1701  | 1.2D+1.6L  | Combination |          | 0.241693   | -0.168955  | -1.247905 | 0.000033      | 0.000016      |
| 1701  | 1.2D+1L+1E | Combination | Max      | 17.434253  | 5.492475   | 3.152927  | 0.000522      | 0.001467      |
| 1701  | 1.2D+1L+1E | Combination | Min      | -17.011183 | -5.789304  | -5.494413 | -0.000466     | -0.001441     |
| 1701  | 0.9D+1E    | Combination | Max      | 17.343671  | 5.555255   | 3.542065  | 0.000509      | 0.001461      |
| 1701  | 0.9D+1E    | Combination | Min      | -17.101764 | -5.726525  | -5.105276 | -0.000479     | -0.001447     |
| 1701  | 1.2D+1L+1E | Combination | Max      | 4.659416   | 12.020380  | 0.787629  | 0.001050      | 0.000389      |
|       | y          |             |          |            |            |           |               |               |
| 1701  | 1.2D+1L+1E | Combination | Min      | -4.236346  | -12.317209 | -3.129115 | -0.000993     | -0.000362     |
|       | y          |             |          |            |            |           |               |               |
| 1701  | 0.9D+1Ey   | Combination | Max      | 4.568835   | 12.083159  | 1.176766  | 0.001036      | 0.000382      |
| 1701  | 0.9D+1Ey   | Combination | Min      | -4.326927  | -12.254429 | -2.739977 | -0.001007     | -0.000369     |
| 1701  | 1D+0.5L    | Combination |          | 0.159525   | -0.112267  | -0.932752 | 0.000021      | 9.691E-06     |
| 1702  | 1.4D       | Combination |          | 0.129816   | -0.109552  | -1.155787 | 0.000013      | 0.000020      |
| 1702  | 1.2D+1.6L  | Combination |          | 0.182201   | -0.150051  | -1.168866 | 0.000018      | 0.000025      |
| 1702  | 1.2D+1L+1E | Combination | Max      | 17.341603  | 6.306303   | 0.506479  | 0.000581      | 0.001500      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1702  | 1.2D+1L+1E      | Combination | Min      | -17.030398 | -6.564292  | -2.710568 | -0.000550     | -0.001456     |
| 1702  | 0.9D+1E         | Combination | Max      | 17.269453  | 6.364871   | 0.865517  | 0.000574      | 0.001491      |
| 1702  | 0.9D+1E         | Combination | Min      | -17.102547 | -6.505724  | -2.351529 | -0.000557     | -0.001465     |
| 1702  | 1.2D+1L+1E<br>y | Combination | Max      | 4.593663   | 12.061365  | 0.604088  | 0.001102      | 0.000403      |
| 1702  | 1.2D+1L+1E<br>y | Combination | Min      | -4.282458  | -12.319355 | -2.808176 | -0.001071     | -0.000359     |
| 1702  | 0.9D+1Ey        | Combination | Max      | 4.521514   | 12.119933  | 0.963126  | 0.001095      | 0.000394      |
| 1702  | 0.9D+1Ey        | Combination | Min      | -4.354607  | -12.260786 | -2.449138 | -0.001078     | -0.000368     |
| 1702  | 1D+0.5L         | Combination |          | 0.114892   | -0.095798  | -0.881247 | 0.000011      | 0.000017      |
| 1703  | 1.4D            | Combination |          | 0.182835   | -0.167959  | -1.223978 | 0.000018      | -0.000042     |
| 1703  | 1.2D+1.6L       | Combination |          | 0.242471   | -0.209664  | -1.259121 | 0.000024      | -0.000055     |
| 1703  | 1.2D+1L+1E      | Combination | Max      | 17.401988  | 6.264303   | 1.106121  | 0.000580      | 0.001060      |
| 1703  | 1.2D+1L+1E      | Combination | Min      | -16.981363 | -6.634357  | -3.466865 | -0.000539     | -0.001156     |
| 1703  | 0.9D+1E         | Combination | Max      | 17.309212  | 6.341357   | 1.499650  | 0.000571      | 0.001081      |
| 1703  | 0.9D+1E         | Combination | Min      | -17.074139 | -6.557304  | -3.073335 | -0.000548     | -0.001135     |
| 1703  | 1.2D+1L+1E<br>y | Combination | Max      | 4.676721   | 12.024308  | 2.063065  | 0.001092      | 0.000250      |
| 1703  | 1.2D+1L+1E<br>y | Combination | Min      | -4.256095  | -12.394361 | -4.423810 | -0.001052     | -0.000346     |
| 1703  | 0.9D+1Ey        | Combination | Max      | 4.583945   | 12.101361  | 2.456595  | 0.001083      | 0.000271      |
| 1703  | 0.9D+1Ey        | Combination | Min      | -4.348871  | -12.317308 | -4.030280 | -0.001061     | -0.000325     |
| 1703  | 1D+0.5L         | Combination |          | 0.157395   | -0.140502  | -0.939894 | 0.000015      | -0.000036     |
| 1704  | 1.4D            | Combination |          | 0.176738   | -0.072185  | -1.090992 | -0.000029     | 0.000017      |
| 1704  | 1.2D+1.6L       | Combination |          | 0.229858   | -0.090748  | -1.115245 | -0.000039     | 0.000022      |
| 1704  | 1.2D+1L+1E      | Combination | Max      | 17.495651  | 4.182562   | 1.366948  | 0.000290      | 0.001467      |
| 1704  | 1.2D+1L+1E      | Combination | Min      | -17.094711 | -4.342402  | -3.462357 | -0.000357     | -0.001429     |
| 1704  | 0.9D+1E         | Combination | Max      | 17.408799  | 4.216077   | 1.713300  | 0.000305      | 0.001459      |
| 1704  | 0.9D+1E         | Combination | Min      | -17.181563 | -4.308887  | -3.116004 | -0.000342     | -0.001437     |
| 1704  | 1.2D+1L+1E<br>y | Combination | Max      | 4.666841   | 12.022013  | 1.361362  | 0.000883      | 0.000393      |
| 1704  | 1.2D+1L+1E<br>y | Combination | Min      | -4.265902  | -12.181853 | -3.456771 | -0.000950     | -0.000355     |
| 1704  | 0.9D+1Ey        | Combination | Max      | 4.579989   | 12.055528  | 1.707714  | 0.000898      | 0.000385      |
| 1704  | 0.9D+1Ey        | Combination | Min      | -4.352754  | -12.148338 | -3.110419 | -0.000935     | -0.000363     |
| 1704  | 1D+0.5L         | Combination |          | 0.150732   | -0.060584  | -0.835564 | -0.000025     | 0.000015      |
| 1705  | 1.4D            | Combination |          | 0.150218   | -0.058354  | -1.055416 | 8.258E-06     | 0.000017      |
| 1705  | 1.2D+1.6L       | Combination |          | 0.202841   | -0.079581  | -1.068523 | 0.000011      | 0.000022      |
| 1705  | 1.2D+1L+1E      | Combination | Max      | 17.462198  | 4.274349   | 0.183762  | 0.000391      | 0.001501      |
| 1705  | 1.2D+1L+1E      | Combination | Min      | -17.112078 | -4.411339  | -2.197896 | -0.000372     | -0.001464     |
| 1705  | 0.9D+1E         | Combination | Max      | 17.383706  | 4.305331   | 0.512348  | 0.000387      | 0.001493      |
| 1705  | 0.9D+1E         | Combination | Min      | -17.190570 | -4.380357  | -1.869310 | -0.000376     | -0.001472     |
| 1705  | 1.2D+1L+1E<br>y | Combination | Max      | 4.638815   | 12.045205  | 1.371371  | 0.001073      | 0.000401      |
| 1705  | 1.2D+1L+1E<br>y | Combination | Min      | -4.288696  | -12.182194 | -3.385506 | -0.001055     | -0.000364     |
| 1705  | 0.9D+1Ey        | Combination | Max      | 4.560324   | 12.076186  | 1.699957  | 0.001069      | 0.000393      |
| 1705  | 0.9D+1Ey        | Combination | Min      | -4.367187  | -12.151213 | -3.056920 | -0.001059     | -0.000372     |
| 1705  | 1D+0.5L         | Combination |          | 0.130449   | -0.050920  | -0.805081 | 7.030E-06     | 0.000014      |
| 1706  | 1.4D            | Combination |          | 0.176598   | -0.111465  | -1.090318 | 7.509E-06     | 0.000018      |
| 1706  | 1.2D+1.6L       | Combination |          | 0.235991   | -0.133741  | -1.114090 | 9.885E-06     | 0.000024      |
| 1706  | 1.2D+1L+1E      | Combination | Max      | 17.406629  | 4.224201   | 0.167723  | 0.000389      | 0.001479      |
| 1706  | 1.2D+1L+1E      | Combination | Min      | -16.998113 | -4.463033  | -2.261254 | -0.000372     | -0.001438     |
| 1706  | 0.9D+1E         | Combination | Max      | 17.315898  | 4.271961   | 0.513570  | 0.000386      | 0.001470      |
| 1706  | 0.9D+1E         | Combination | Min      | -17.088844 | -4.415273  | -1.915407 | -0.000376     | -0.001447     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1706  | 1.2D+1L+1E<br>y | Combination | Max      | 4.673682   | 11.995200  | 1.337470  | 0.001070      | 0.000399      |
| 1706  | 1.2D+1L+1E<br>y | Combination | Min      | -4.265167  | -12.234033 | -3.431001 | -0.001053     | -0.000357     |
| 1706  | 0.9D+1Ey        | Combination | Max      | 4.582952   | 12.042960  | 1.683317  | 0.001066      | 0.000390      |
| 1706  | 0.9D+1Ey        | Combination | Min      | -4.355897  | -12.186273 | -3.085154 | -0.001056     | -0.000366     |
| 1706  | 1D+0.5L         | Combination |          | 0.152585   | -0.091555  | -0.834902 | 6.441E-06     | 0.000016      |
| 1707  | 1.4D            | Combination |          | 0.200866   | -0.076912  | -1.128153 | 0.000010      | 0.000018      |
| 1707  | 1.2D+1.6L       | Combination |          | 0.260957   | -0.095492  | -1.164380 | 0.000013      | 0.000024      |
| 1707  | 1.2D+1L+1E      | Combination | Max      | 17.434772  | 4.179066   | 1.271861  | 0.000377      | 0.001454      |
| 1707  | 1.2D+1L+1E      | Combination | Min      | -16.979448 | -4.347875  | -3.452578 | -0.000354     | -0.001412     |
| 1707  | 0.9D+1E         | Combination | Max      | 17.336238  | 4.214027   | 1.636978  | 0.000373      | 0.001445      |
| 1707  | 0.9D+1E         | Combination | Min      | -17.077982 | -4.312914  | -3.087460 | -0.000359     | -0.001422     |
| 1707  | 1.2D+1L+1E<br>y | Combination | Max      | 4.697503   | 12.020243  | 1.322908  | 0.001043      | 0.000393      |
| 1707  | 1.2D+1L+1E<br>y | Combination | Min      | -4.242179  | -12.189052 | -3.503624 | -0.001020     | -0.000351     |
| 1707  | 0.9D+1Ey        | Combination | Max      | 4.598969   | 12.055204  | 1.688025  | 0.001039      | 0.000383      |
| 1707  | 0.9D+1Ey        | Combination | Min      | -4.340712  | -12.154091 | -3.138507 | -0.001025     | -0.000360     |
| 1707  | 1D+0.5L         | Combination |          | 0.171221   | -0.064177  | -0.867508 | 8.750E-06     | 0.000016      |
| 1708  | 1.4D            | Combination |          | 0.162120   | 0.008552   | -0.934183 | 0.000016      | 0.000020      |
| 1708  | 1.2D+1.6L       | Combination |          | 0.215513   | 0.019112   | -0.874506 | 0.000022      | 0.000024      |
| 1708  | 1.2D+1L+1E      | Combination | Max      | 17.371726  | 6.845801   | 3.397426  | 0.000602      | 0.001472      |
| 1708  | 1.2D+1L+1E      | Combination | Min      | -16.998114 | -6.816414  | -5.091105 | -0.000563     | -0.001429     |
| 1708  | 0.9D+1E         | Combination | Max      | 17.289140  | 6.836605   | 3.643719  | 0.000592      | 0.001463      |
| 1708  | 0.9D+1E         | Combination | Min      | -17.080700 | -6.825610  | -4.844811 | -0.000572     | -0.001438     |
| 1708  | 1.2D+1L+1E<br>y | Combination | Max      | 4.626407   | 12.027706  | 0.951663  | 0.001021      | 0.000396      |
| 1708  | 1.2D+1L+1E<br>y | Combination | Min      | -4.252796  | -11.998319 | -2.645342 | -0.000983     | -0.000353     |
| 1708  | 0.9D+1Ey        | Combination | Max      | 4.543822   | 12.018510  | 1.197956  | 0.001012      | 0.000387      |
| 1708  | 0.9D+1Ey        | Combination | Min      | -4.335381  | -12.007515 | -2.399048 | -0.000992     | -0.000362     |
| 1708  | 1D+0.5L         | Combination |          | 0.139723   | 0.009790   | -0.690329 | 0.000014      | 0.000016      |
| 1709  | 1.4D            | Combination |          | 0.209998   | 0.038184   | -0.991154 | -4.022E-07    | 9.851E-06     |
| 1709  | 1.2D+1.6L       | Combination |          | 0.260893   | 0.054337   | -0.949828 | -2.058E-06    | 0.000015      |
| 1709  | 1.2D+1L+1E      | Combination | Max      | 17.377682  | 7.718744   | 0.810131  | 0.000670      | 0.001495      |
| 1709  | 1.2D+1L+1E      | Combination | Min      | -16.916567 | -7.626277  | -2.634587 | -0.000672     | -0.001470     |
| 1709  | 0.9D+1E         | Combination | Max      | 17.282123  | 7.697057   | 1.085188  | 0.000671      | 0.001489      |
| 1709  | 0.9D+1E         | Combination | Min      | -17.012125 | -7.647964  | -2.359529 | -0.000671     | -0.001476     |
| 1709  | 1.2D+1L+1E<br>y | Combination | Max      | 4.662748   | 11.972932  | 0.645689  | 0.001070      | 0.000395      |
| 1709  | 1.2D+1L+1E<br>y | Combination | Min      | -4.201633  | -11.880464 | -2.470145 | -0.001073     | -0.000370     |
| 1709  | 0.9D+1Ey        | Combination | Max      | 4.567190   | 11.951245  | 0.920747  | 0.001071      | 0.000389      |
| 1709  | 0.9D+1Ey        | Combination | Min      | -4.297192  | -11.902152 | -2.195088 | -0.001071     | -0.000376     |
| 1709  | 1D+0.5L         | Combination |          | 0.175278   | 0.034027   | -0.739301 | -8.228E-07    | 9.092E-06     |
| 1710  | 1.4D            | Combination |          | 0.175311   | -0.017905  | -0.991124 | -7.892E-08    | 5.485E-06     |
| 1710  | 1.2D+1.6L       | Combination |          | 0.235972   | 0.000572   | -0.944009 | -1.241E-06    | 6.514E-06     |
| 1710  | 1.2D+1L+1E      | Combination | Max      | 17.418486  | 7.690456   | 1.789611  | 0.000671      | 0.001351      |
| 1710  | 1.2D+1L+1E      | Combination | Min      | -17.010820 | -7.701251  | -3.606774 | -0.000673     | -0.001340     |
| 1710  | 0.9D+1E         | Combination | Max      | 17.327353  | 7.684343   | 2.061042  | 0.000672      | 0.001349      |
| 1710  | 0.9D+1E         | Combination | Min      | -17.101953 | -7.707363  | -3.335343 | -0.000672     | -0.001342     |
| 1710  | 1.2D+1L+1E<br>y | Combination | Max      | 4.676105   | 11.952378  | 2.429637  | 0.001069      | 0.000368      |
| 1710  | 1.2D+1L+1E<br>y | Combination | Min      | -4.268440  | -11.963173 | -4.246800 | -0.001070     | -0.000356     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1710  | 0.9D+1Ey   | Combination | Max      | 4.584973   | 11.946265  | 2.701068  | 0.001070      | 0.000365      |
| 1710  | 0.9D+1Ey   | Combination | Min      | -4.359572  | -11.969285 | -3.975369 | -0.001070     | -0.000358     |
| 1710  | 1D+0.5L    | Combination |          | 0.152005   | -0.007814  | -0.737469 | -4.232E-07    | 4.484E-06     |
| 1711  | 1.4D       | Combination |          | 0.109701   | -0.103439  | -1.039131 | 0.000012      | 0.000025      |
| 1711  | 1.2D+1.6L  | Combination |          | 0.132829   | -0.164527  | -0.983598 | 0.000017      | 0.000034      |
| 1711  | 1.2D+1L+1E | Combination | Max      | 26.034117  | 9.729037   | 0.963234  | 0.000706      | 0.001845      |
| 1711  | 1.2D+1L+1E | Combination | Min      | -25.797559 | -10.001192 | -2.860744 | -0.000677     | -0.001786     |
| 1711  | 0.9D+1E    | Combination | Max      | 25.986360  | 9.798618   | 1.243976  | 0.000700      | 0.001832      |
| 1711  | 0.9D+1E    | Combination | Min      | -25.845316 | -9.931611  | -2.580001 | -0.000684     | -0.001799     |
| 1711  | 1.2D+1L+1E | Combination | Max      | 6.818928   | 15.389725  | 2.131015  | 0.001153      | 0.000498      |
|       | y          |             |          |            |            |           |               |               |
| 1711  | 1.2D+1L+1E | Combination | Min      | -6.582370  | -15.661880 | -4.028525 | -0.001123     | -0.000439     |
|       | y          |             |          |            |            |           |               |               |
| 1711  | 0.9D+1Ey   | Combination | Max      | 6.771171   | 15.459306  | 2.411757  | 0.001146      | 0.000485      |
| 1711  | 0.9D+1Ey   | Combination | Min      | -6.630127  | -15.592299 | -3.747783 | -0.001130     | -0.000452     |
| 1711  | 1D+0.5L    | Combination |          | 0.090483   | -0.097593  | -0.771272 | 0.000011      | 0.000022      |
| 1712  | 1.4D       | Combination |          | 0.092234   | -0.150308  | -1.093010 | 0.000013      | 8.120E-06     |
| 1712  | 1.2D+1.6L  | Combination |          | 0.123687   | -0.209495  | -1.058398 | 0.000018      | 0.000011      |
| 1712  | 1.2D+1L+1E | Combination | Max      | 24.893428  | 9.700895   | 1.513727  | 0.000727      | 0.001773      |
| 1712  | 1.2D+1L+1E | Combination | Min      | -24.679526 | -10.059391 | -3.539374 | -0.000696     | -0.001754     |
| 1712  | 0.9D+1E    | Combination | Max      | 24.845770  | 9.783516   | 1.823902  | 0.000720      | 0.001768      |
| 1712  | 0.9D+1E    | Combination | Min      | -24.727184 | -9.976769  | -3.229200 | -0.000703     | -0.001758     |
| 1712  | 1.2D+1L+1E | Combination | Max      | 6.497289   | 15.340805  | 1.025302  | 0.001185      | 0.000464      |
|       | y          |             |          |            |            |           |               |               |
| 1712  | 1.2D+1L+1E | Combination | Min      | -6.283387  | -15.699300 | -3.050949 | -0.001154     | -0.000445     |
|       | y          |             |          |            |            |           |               |               |
| 1712  | 0.9D+1Ey   | Combination | Max      | 6.449631   | 15.423426  | 1.335477  | 0.001177      | 0.000459      |
| 1712  | 0.9D+1Ey   | Combination | Min      | -6.331045  | -15.616679 | -2.740775 | -0.001161     | -0.000449     |
| 1712  | 1D+0.5L    | Combination |          | 0.079828   | -0.132569  | -0.818700 | 0.000011      | 7.064E-06     |
| 1713  | 1.4D       | Combination |          | 0.137875   | -0.110961  | -1.140509 | -7.254E-06    | 0.000017      |
| 1713  | 1.2D+1.6L  | Combination |          | 0.168213   | -0.164538  | -1.116999 | -0.000011     | 0.000019      |
| 1713  | 1.2D+1L+1E | Combination | Max      | 24.950697  | 8.457300   | 3.485777  | 0.000598      | 0.001773      |
| 1713  | 1.2D+1L+1E | Combination | Min      | -24.651796 | -8.734305  | -5.615210 | -0.000617     | -0.001738     |
| 1713  | 0.9D+1E    | Combination | Max      | 24.889880  | 8.524470   | 3.817309  | 0.000603      | 0.001766      |
| 1713  | 0.9D+1E    | Combination | Min      | -24.712612 | -8.667135  | -5.283677 | -0.000612     | -0.001745     |
| 1713  | 1.2D+1L+1E | Combination | Max      | 6.544442   | 15.385874  | 1.128347  | 0.001163      | 0.000469      |
|       | y          |             |          |            |            |           |               |               |
| 1713  | 1.2D+1L+1E | Combination | Min      | -6.245542  | -15.662879 | -3.257780 | -0.001182     | -0.000434     |
|       | y          |             |          |            |            |           |               |               |
| 1713  | 0.9D+1Ey   | Combination | Max      | 6.483626   | 15.453044  | 1.459879  | 0.001167      | 0.000462      |
| 1713  | 0.9D+1Ey   | Combination | Min      | -6.306358  | -15.595709 | -2.926247 | -0.001177     | -0.000441     |
| 1713  | 1D+0.5L    | Combination |          | 0.114118   | -0.100954  | -0.858218 | -6.827E-06    | 0.000013      |
| 1714  | 1.4D       | Combination |          | 0.101730   | -0.068879  | -1.289096 | 8.898E-06     | 9.908E-06     |
| 1714  | 1.2D+1.6L  | Combination |          | 0.124653   | -0.097678  | -1.299018 | 0.000012      | 0.000012      |
| 1714  | 1.2D+1L+1E | Combination | Max      | 26.034008  | 5.510802   | 0.135732  | 0.000426      | 0.001853      |
| 1714  | 1.2D+1L+1E | Combination | Min      | -25.812795 | -5.677179  | -2.588210 | -0.000406     | -0.001832     |
| 1714  | 0.9D+1E    | Combination | Max      | 25.988799  | 5.549711   | 0.533266  | 0.000421      | 0.001849      |
| 1714  | 0.9D+1E    | Combination | Min      | -25.858004 | -5.638270  | -2.190676 | -0.000410     | -0.001836     |
| 1714  | 1.2D+1L+1E | Combination | Max      | 6.813167   | 15.486186  | 1.286861  | 0.001165      | 0.000486      |
|       | y          |             |          |            |            |           |               |               |
| 1714  | 1.2D+1L+1E | Combination | Min      | -6.591954  | -15.652563 | -3.739338 | -0.001145     | -0.000465     |
|       | y          |             |          |            |            |           |               |               |
| 1714  | 0.9D+1Ey   | Combination | Max      | 6.767958   | 15.525095  | 1.684395  | 0.001161      | 0.000481      |
| 1714  | 0.9D+1Ey   | Combination | Min      | -6.637163  | -15.613653 | -3.341804 | -0.001150     | -0.000469     |
| 1714  | 1D+0.5L    | Combination |          | 0.084369   | -0.061274  | -0.981433 | 7.577E-06     | 8.075E-06     |
| 1715  | 1.4D       | Combination |          | 0.127448   | -0.086276  | -1.313141 | -5.997E-06    | 0.000012      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1715  | 1.2D+1.6L       | Combination |          | 0.150631   | -0.111514  | -1.327913 | -0.000014     | 0.000014      |
| 1715  | 1.2D+1L+1E      | Combination | Max      | 26.062363  | 5.390671   | 1.722846  | 0.000337      | 0.001841      |
| 1715  | 1.2D+1L+1E      | Combination | Min      | -25.792143 | -5.585527  | -4.226899 | -0.000358     | -0.001815     |
| 1715  | 0.9D+1E         | Combination | Max      | 26.009183  | 5.432636   | 2.130711  | 0.000344      | 0.001836      |
| 1715  | 0.9D+1E         | Combination | Min      | -25.845322 | -5.543563  | -3.819035 | -0.000351     | -0.001820     |
| 1715  | 1.2D+1L+1E<br>y | Combination | Max      | 6.837599   | 15.482895  | 1.340605  | 0.000956      | 0.000484      |
| 1715  | 1.2D+1L+1E<br>y | Combination | Min      | -6.567379  | -15.677752 | -3.844658 | -0.000977     | -0.000458     |
| 1715  | 0.9D+1Ey        | Combination | Max      | 6.784420   | 15.524860  | 1.748469  | 0.000962      | 0.000479      |
| 1715  | 0.9D+1Ey        | Combination | Min      | -6.620558  | -15.635787 | -3.436794 | -0.000970     | -0.000464     |
| 1715  | 1D+0.5L         | Combination |          | 0.103969   | -0.073364  | -1.001196 | -6.978E-06    | 9.882E-06     |
| 1716  | 1.4D            | Combination |          | 0.110758   | -0.119715  | -1.330023 | 8.025E-06     | 0.000012      |
| 1716  | 1.2D+1.6L       | Combination |          | 0.141408   | -0.149193  | -1.351080 | 0.000010      | 0.000014      |
| 1716  | 1.2D+1L+1E      | Combination | Max      | 25.001497  | 5.464754   | 0.237835  | 0.000426      | 0.001779      |
| 1716  | 1.2D+1L+1E      | Combination | Min      | -24.753535 | -5.728205  | -2.781700 | -0.000408     | -0.001754     |
| 1716  | 0.9D+1E         | Combination | Max      | 24.948718  | 5.519520   | 0.654753  | 0.000422      | 0.001774      |
| 1716  | 0.9D+1E         | Combination | Min      | -24.806314 | -5.673439  | -2.364782 | -0.000412     | -0.001759     |
| 1716  | 1.2D+1L+1E<br>y | Combination | Max      | 6.535556   | 15.438368  | 1.182546  | 0.001168      | 0.000467      |
| 1716  | 1.2D+1L+1E<br>y | Combination | Min      | -6.287594  | -15.701819 | -3.726411 | -0.001150     | -0.000442     |
| 1716  | 0.9D+1Ey        | Combination | Max      | 6.482777   | 15.493134  | 1.599463  | 0.001164      | 0.000462      |
| 1716  | 0.9D+1Ey        | Combination | Min      | -6.340373  | -15.647053 | -3.309493 | -0.001154     | -0.000447     |
| 1716  | 1D+0.5L         | Combination |          | 0.093636   | -0.100067  | -1.015973 | 6.768E-06     | 9.735E-06     |
| 1717  | 1.4D            | Combination |          | 0.136004   | -0.091724  | -1.358407 | 9.166E-06     | 0.000014      |
| 1717  | 1.2D+1.6L       | Combination |          | 0.167137   | -0.117032  | -1.385717 | 0.000020      | 0.000018      |
| 1717  | 1.2D+1L+1E      | Combination | Max      | 25.027694  | 5.385379   | 1.317490  | 0.000369      | 0.001741      |
| 1717  | 1.2D+1L+1E      | Combination | Min      | -24.731342 | -5.590634  | -3.922898 | -0.000338     | -0.001710     |
| 1717  | 0.9D+1E         | Combination | Max      | 24.966949  | 5.429041   | 1.746933  | 0.000359      | 0.001735      |
| 1717  | 0.9D+1E         | Combination | Min      | -24.792087 | -5.546972  | -3.493456 | -0.000347     | -0.001716     |
| 1717  | 1.2D+1L+1E<br>y | Combination | Max      | 6.560846   | 15.477158  | 1.170287  | 0.001016      | 0.000461      |
| 1717  | 1.2D+1L+1E<br>y | Combination | Min      | -6.264494  | -15.682414 | -3.775695 | -0.000985     | -0.000429     |
| 1717  | 0.9D+1Ey        | Combination | Max      | 6.500102   | 15.520821  | 1.599729  | 0.001007      | 0.000454      |
| 1717  | 0.9D+1Ey        | Combination | Min      | -6.325239  | -15.638752 | -3.346252 | -0.000995     | -0.000436     |
| 1717  | 1D+0.5L         | Combination |          | 0.112946   | -0.077521  | -1.039468 | 0.000010      | 0.000012      |
| 1718  | 1.4D            | Combination |          | 0.122857   | -0.014572  | -1.262325 | 5.543E-06     | 7.019E-06     |
| 1718  | 1.2D+1.6L       | Combination |          | 0.145947   | 0.000029   | -1.280838 | 4.614E-06     | 7.564E-06     |
| 1718  | 1.2D+1L+1E      | Combination | Max      | 26.048415  | 10.658349  | 0.520466  | 0.000719      | 0.001773      |
| 1718  | 1.2D+1L+1E      | Combination | Min      | -25.787002 | -10.667681 | -2.933009 | -0.000710     | -0.001759     |
| 1718  | 0.9D+1E         | Combination | Max      | 25.996687  | 10.653647  | 0.915243  | 0.000718      | 0.001771      |
| 1718  | 0.9D+1E         | Combination | Min      | -25.838729 | -10.672383 | -2.538232 | -0.000711     | -0.001762     |
| 1718  | 1.2D+1L+1E<br>y | Combination | Max      | 6.831286   | 15.964357  | 1.567742  | 0.001124      | 0.000463      |
| 1718  | 1.2D+1L+1E<br>y | Combination | Min      | -6.569873  | -15.973689 | -3.980284 | -0.001115     | -0.000449     |
| 1718  | 0.9D+1Ey        | Combination | Max      | 6.779559   | 15.959655  | 1.962518  | 0.001123      | 0.000461      |
| 1718  | 0.9D+1Ey        | Combination | Min      | -6.621601  | -15.978391 | -3.585508 | -0.001116     | -0.000452     |
| 1718  | 1D+0.5L         | Combination |          | 0.100455   | -0.006496  | -0.963800 | 3.916E-06     | 5.497E-06     |
| 1719  | 1.4D            | Combination |          | 0.161302   | -0.061412  | -1.283542 | 6.073E-06     | 0.000016      |
| 1719  | 1.2D+1.6L       | Combination |          | 0.191984   | -0.047439  | -1.298187 | 5.992E-06     | 0.000019      |
| 1719  | 1.2D+1L+1E      | Combination | Max      | 24.965295  | 10.628080  | 1.232894  | 0.000752      | 0.001774      |
| 1719  | 1.2D+1L+1E      | Combination | Min      | -24.621620 | -10.726858 | -3.680762 | -0.000740     | -0.001740     |
| 1719  | 0.9D+1E         | Combination | Max      | 24.897152  | 10.637990  | 1.631694  | 0.000750      | 0.001768      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1719  | 0.9D+1E    | Combination | Min      | -24.689764 | -10.716948 | -3.281963 | -0.000742     | -0.001747     |
| 1719  | 1.2D+1L+1E | Combination | Max      | 6.562792   | 15.926235  | 1.074330  | 0.001171      | 0.000469      |
|       | y          |             |          |            |            |           |               |               |
| 1719  | 1.2D+1L+1E | Combination | Min      | -6.219117  | -16.025013 | -3.522199 | -0.001159     | -0.000435     |
|       | y          |             |          |            |            |           |               |               |
| 1719  | 0.9D+1Ey   | Combination | Max      | 6.494649   | 15.936145  | 1.473130  | 0.001169      | 0.000463      |
| 1719  | 0.9D+1Ey   | Combination | Min      | -6.287260  | -16.015103 | -3.123399 | -0.001161     | -0.000442     |
| 1719  | 1D+0.5L    | Combination |          | 0.132005   | -0.042241  | -0.978693 | 4.584E-06     | 0.000013      |
| 1720  | 1.4D       | Combination |          | 0.237264   | -0.170702  | -1.390200 | 0.000024      | 0.000023      |
| 1720  | 1.2D+1.6L  | Combination |          | 0.307165   | -0.218541  | -1.426706 | 0.000035      | 0.000029      |
| 1720  | 1.2D+1L+1E | Combination | Max      | 22.214959  | 7.063909   | 3.272369  | 0.000562      | 0.001587      |
| 1720  | 1.2D+1L+1E | Combination | Min      | -21.678476 | -7.446823  | -5.949452 | -0.000504     | -0.001536     |
| 1720  | 0.9D+1E    | Combination | Max      | 22.099245  | 7.145628   | 3.717210  | 0.000548      | 0.001576      |
| 1720  | 0.9D+1E    | Combination | Min      | -21.794191 | -7.365103  | -5.504610 | -0.000517     | -0.001547     |
| 1720  | 1.2D+1L+1E | Combination | Max      | 5.933586   | 15.490109  | 0.803030  | 0.001134      | 0.000428      |
|       | y          |             |          |            |            |           |               |               |
| 1720  | 1.2D+1L+1E | Combination | Min      | -5.397103  | -15.873023 | -3.480113 | -0.001076     | -0.000377     |
|       | y          |             |          |            |            |           |               |               |
| 1720  | 0.9D+1Ey   | Combination | Max      | 5.817872   | 15.571828  | 1.247871  | 0.001121      | 0.000417      |
| 1720  | 0.9D+1Ey   | Combination | Min      | -5.512818  | -15.791303 | -3.035272 | -0.001090     | -0.000388     |
| 1720  | 1D+0.5L    | Combination |          | 0.201911   | -0.144501  | -1.066471 | 0.000022      | 0.000019      |
| 1721  | 1.4D       | Combination |          | 0.182543   | -0.153603  | -1.324741 | 0.000015      | 0.000011      |
| 1721  | 1.2D+1.6L  | Combination |          | 0.251352   | -0.208053  | -1.340202 | 0.000020      | 0.000016      |
| 1721  | 1.2D+1L+1E | Combination | Max      | 22.138179  | 8.095311   | 0.453805  | 0.000629      | 0.001565      |
| 1721  | 1.2D+1L+1E | Combination | Min      | -21.706640 | -8.454122  | -2.980676 | -0.000594     | -0.001538     |
| 1721  | 0.9D+1E    | Combination | Max      | 22.039758  | 8.175972   | 0.865622  | 0.000621      | 0.001558      |
| 1721  | 0.9D+1E    | Combination | Min      | -21.805060 | -8.373462  | -2.568859 | -0.000602     | -0.001544     |
| 1721  | 1.2D+1L+1E | Combination | Max      | 5.874246   | 15.543301  | 0.610091  | 0.001199      | 0.000413      |
|       | y          |             |          |            |            |           |               |               |
| 1721  | 1.2D+1L+1E | Combination | Min      | -5.442706  | -15.902112 | -3.136963 | -0.001164     | -0.000387     |
|       | y          |             |          |            |            |           |               |               |
| 1721  | 0.9D+1Ey   | Combination | Max      | 5.775825   | 15.623962  | 1.021908  | 0.001191      | 0.000407      |
| 1721  | 0.9D+1Ey   | Combination | Min      | -5.541127  | -15.821451 | -2.725146 | -0.001172     | -0.000393     |
| 1721  | 1D+0.5L    | Combination |          | 0.160040   | -0.133589  | -1.010215 | 0.000013      | 9.748E-06     |
| 1722  | 1.4D       | Combination |          | 0.239056   | -0.209422  | -1.398441 | 0.000020      | -0.000041     |
| 1722  | 1.2D+1.6L  | Combination |          | 0.317199   | -0.265032  | -1.438317 | 0.000026      | -0.000053     |
| 1722  | 1.2D+1L+1E | Combination | Max      | 22.151475  | 8.052346   | 1.133244  | 0.000628      | 0.001131      |
| 1722  | 1.2D+1L+1E | Combination | Min      | -21.601297 | -8.518264  | -3.830138 | -0.000583     | -0.001224     |
| 1722  | 0.9D+1E    | Combination | Max      | 22.030065  | 8.150677   | 1.582693  | 0.000618      | 0.001151      |
| 1722  | 0.9D+1E    | Combination | Min      | -21.722707 | -8.419934  | -3.380689 | -0.000593     | -0.001203     |
| 1722  | 1.2D+1L+1E | Combination | Max      | 5.954345   | 15.502509  | 2.150878  | 0.001188      | 0.000269      |
|       | y          |             |          |            |            |           |               |               |
| 1722  | 1.2D+1L+1E | Combination | Min      | -5.404167  | -15.968427 | -4.847772 | -0.001143     | -0.000362     |
|       | y          |             |          |            |            |           |               |               |
| 1722  | 0.9D+1Ey   | Combination | Max      | 5.832935   | 15.600839  | 2.600327  | 0.001178      | 0.000289      |
| 1722  | 0.9D+1Ey   | Combination | Min      | -5.525577  | -15.870096 | -4.398323 | -0.001153     | -0.000342     |
| 1722  | 1D+0.5L    | Combination |          | 0.205846   | -0.176314  | -1.073778 | 0.000017      | -0.000035     |
| 1723  | 1.4D       | Combination |          | 0.227698   | -0.096577  | -1.247771 | -0.000028     | 0.000019      |
| 1723  | 1.2D+1.6L  | Combination |          | 0.292728   | -0.121789  | -1.275516 | -0.000038     | 0.000025      |
| 1723  | 1.2D+1L+1E | Combination | Max      | 22.277844  | 5.381286   | 1.366595  | 0.000317      | 0.001558      |
| 1723  | 1.2D+1L+1E | Combination | Min      | -21.759869 | -5.595606  | -3.763128 | -0.000382     | -0.001514     |
| 1723  | 0.9D+1E    | Combination | Max      | 22.165234  | 5.426361   | 1.762723  | 0.000331      | 0.001549      |
| 1723  | 0.9D+1E    | Combination | Min      | -21.872479 | -5.550531  | -3.367000 | -0.000367     | -0.001524     |
| 1723  | 1.2D+1L+1E | Combination | Max      | 5.942694   | 15.474781  | 1.419979  | 0.000957      | 0.000418      |
|       | y          |             |          |            |            |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1723  | 1.2D+1L+1E<br>y | Combination | Min      | -5.424719  | -15.689102 | -3.816512 | -0.001023     | -0.000374     |
| 1723  | 0.9D+1Ey        | Combination | Max      | 5.830084   | 15.519856  | 1.816106  | 0.000972      | 0.000409      |
| 1723  | 0.9D+1Ey        | Combination | Min      | -5.537329  | -15.644027 | -3.420384 | -0.001008     | -0.000384     |
| 1723  | 1D+0.5L         | Combination |          | 0.194550   | -0.081174  | -0.955639 | -0.000024     | 0.000017      |
| 1724  | 1.4D            | Combination |          | 0.202365   | -0.085785  | -1.209224 | 9.809E-06     | 0.000017      |
| 1724  | 1.2D+1.6L       | Combination |          | 0.271462   | -0.114613  | -1.224693 | 0.000013      | 0.000023      |
| 1724  | 1.2D+1L+1E      | Combination | Max      | 22.248179  | 5.493613   | 0.128916  | 0.000426      | 0.001591      |
| 1724  | 1.2D+1L+1E      | Combination | Min      | -21.778760 | -5.692027  | -2.437140 | -0.000404     | -0.001551     |
| 1724  | 0.9D+1E         | Combination | Max      | 22.143562  | 5.537672   | 0.505669  | 0.000421      | 0.001582      |
| 1724  | 0.9D+1E         | Combination | Min      | -21.883378 | -5.647968  | -2.060386 | -0.000409     | -0.001560     |
| 1724  | 1.2D+1L+1E<br>y | Combination | Max      | 5.916458   | 15.496590  | 1.430544  | 0.001168      | 0.000424      |
| 1724  | 1.2D+1L+1E<br>y | Combination | Min      | -5.447038  | -15.695004 | -3.738768 | -0.001146     | -0.000385     |
| 1724  | 0.9D+1Ey        | Combination | Max      | 5.811840   | 15.540649  | 1.807298  | 0.001163      | 0.000416      |
| 1724  | 0.9D+1Ey        | Combination | Min      | -5.551656  | -15.650945 | -3.362015 | -0.001150     | -0.000394     |
| 1724  | 1D+0.5L         | Combination |          | 0.175174   | -0.074114  | -0.922549 | 8.320E-06     | 0.000015      |
| 1725  | 1.4D            | Combination |          | 0.233287   | -0.136683  | -1.249551 | 9.037E-06     | 0.000019      |
| 1725  | 1.2D+1.6L       | Combination |          | 0.311242   | -0.166556  | -1.277336 | 0.000012      | 0.000025      |
| 1725  | 1.2D+1L+1E      | Combination | Max      | 22.154261  | 5.445550   | 0.114883  | 0.000424      | 0.001566      |
| 1725  | 1.2D+1L+1E      | Combination | Min      | -21.615238 | -5.741614  | -2.514835 | -0.000404     | -0.001522     |
| 1725  | 0.9D+1E         | Combination | Max      | 22.034720  | 5.505714   | 0.511576  | 0.000420      | 0.001556      |
| 1725  | 0.9D+1E         | Combination | Min      | -21.734779 | -5.681450  | -2.118142 | -0.000408     | -0.001531     |
| 1725  | 1.2D+1L+1E<br>y | Combination | Max      | 5.951186   | 15.448946  | 1.393730  | 0.001164      | 0.000422      |
| 1725  | 1.2D+1L+1E<br>y | Combination | Min      | -5.412163  | -15.745009 | -3.793682 | -0.001144     | -0.000378     |
| 1725  | 0.9D+1Ey        | Combination | Max      | 5.831645   | 15.509109  | 1.790423  | 0.001160      | 0.000412      |
| 1725  | 0.9D+1Ey        | Combination | Min      | -5.531705  | -15.684845 | -3.396989 | -0.001148     | -0.000387     |
| 1725  | 1D+0.5L         | Combination |          | 0.201409   | -0.113068  | -0.957003 | 7.713E-06     | 0.000017      |
| 1726  | 1.4D            | Combination |          | 0.256530   | -0.101056  | -1.290640 | 0.000012      | 0.000020      |
| 1726  | 1.2D+1.6L       | Combination |          | 0.335163   | -0.126288  | -1.332153 | 0.000015      | 0.000027      |
| 1726  | 1.2D+1L+1E      | Combination | Max      | 22.178939  | 5.378123   | 1.249936  | 0.000408      | 0.001541      |
| 1726  | 1.2D+1L+1E      | Combination | Min      | -21.595074 | -5.600948  | -3.744825 | -0.000382     | -0.001495     |
| 1726  | 0.9D+1E         | Combination | Max      | 22.051918  | 5.424571   | 1.667684  | 0.000403      | 0.001531      |
| 1726  | 0.9D+1E         | Combination | Min      | -21.722094 | -5.554500  | -3.327077 | -0.000387     | -0.001505     |
| 1726  | 1.2D+1L+1E<br>y | Combination | Max      | 5.973323   | 15.473541  | 1.379930  | 0.001128      | 0.000417      |
| 1726  | 1.2D+1L+1E<br>y | Combination | Min      | -5.389457  | -15.696366 | -3.874819 | -0.001102     | -0.000370     |
| 1726  | 0.9D+1Ey        | Combination | Max      | 5.846302   | 15.519989  | 1.797678  | 0.001122      | 0.000406      |
| 1726  | 0.9D+1Ey        | Combination | Min      | -5.516478  | -15.649918 | -3.457071 | -0.001107     | -0.000380     |
| 1726  | 1D+0.5L         | Combination |          | 0.219261   | -0.084579  | -0.992476 | 9.901E-06     | 0.000017      |
| 1727  | 1.4D            | Combination |          | 0.215486   | 0.003260   | -1.070499 | 0.000017      | 0.000011      |
| 1727  | 1.2D+1.6L       | Combination |          | 0.285373   | 0.015918   | -1.002500 | 0.000024      | 0.000016      |
| 1727  | 1.2D+1L+1E      | Combination | Max      | 22.150312  | 8.765717   | 3.549156  | 0.000645      | 0.001573      |
| 1727  | 1.2D+1L+1E      | Combination | Min      | -21.655069 | -8.743724  | -5.490458 | -0.000604     | -0.001546     |
| 1727  | 0.9D+1E         | Combination | Max      | 22.041217  | 8.756816   | 3.831629  | 0.000635      | 0.001567      |
| 1727  | 0.9D+1E         | Combination | Min      | -21.764163 | -8.752625  | -5.207985 | -0.000613     | -0.001553     |
| 1727  | 1.2D+1L+1E<br>y | Combination | Max      | 5.902788   | 15.500403  | 0.991982  | 0.001104      | 0.000416      |
| 1727  | 1.2D+1L+1E<br>y | Combination | Min      | -5.407545  | -15.478410 | -2.933284 | -0.001063     | -0.000388     |
| 1727  | 0.9D+1Ey        | Combination | Max      | 5.793693   | 15.491502  | 1.274455  | 0.001095      | 0.000409      |
| 1727  | 0.9D+1Ey        | Combination | Min      | -5.516640  | -15.487311 | -2.650811 | -0.001073     | -0.000395     |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1727  | 1D+0.5L    | Combination |          | 0.185378   | 0.006430   | -0.791183 | 0.000015      | 0.000010      |
| 1728  | 1.4D       | Combination |          | 0.260383   | 0.036028   | -1.133637 | -3.183E-07    | 0.000021      |
| 1728  | 1.2D+1.6L  | Combination |          | 0.327941   | 0.056088   | -1.086201 | -2.140E-06    | 0.000027      |
| 1728  | 1.2D+1L+1E | Combination | Max      | 22.166455  | 9.896211   | 0.797310  | 0.000722      | 0.001579      |
| 1728  | 1.2D+1L+1E | Combination | Min      | -21.589140 | -9.802940  | -2.883829 | -0.000725     | -0.001532     |
| 1728  | 0.9D+1E    | Combination | Max      | 22.045186  | 9.872736   | 1.111803  | 0.000723      | 0.001569      |
| 1728  | 0.9D+1E    | Combination | Min      | -21.710408 | -9.826415  | -2.569337 | -0.000724     | -0.001542     |
| 1728  | 1.2D+1L+1E | Combination | Max      | 5.939066   | 15.459556  | 0.656009  | 0.001165      | 0.000425      |
|       | y          |             |          |            |            |           |               |               |
| 1728  | 1.2D+1L+1E | Combination | Min      | -5.361751  | -15.366285 | -2.742527 | -0.001168     | -0.000377     |
|       | y          |             |          |            |            |           |               |               |
| 1728  | 0.9D+1Ey   | Combination | Max      | 5.817797   | 15.436081  | 0.970501  | 0.001166      | 0.000415      |
| 1728  | 0.9D+1Ey   | Combination | Min      | -5.483019  | -15.389760 | -2.428035 | -0.001167     | -0.000387     |
| 1728  | 1D+0.5L    | Combination |          | 0.218724   | 0.033611   | -0.845526 | -8.108E-07    | 0.000018      |
| 1729  | 1.4D       | Combination |          | 0.232686   | -0.017763  | -1.137603 | -1.150E-07    | 6.678E-06     |
| 1729  | 1.2D+1.6L  | Combination |          | 0.311942   | 0.004472   | -1.084756 | -1.448E-06    | 7.810E-06     |
| 1729  | 1.2D+1L+1E | Combination | Max      | 22.169451  | 9.864248   | 1.886314  | 0.000724      | 0.001434      |
| 1729  | 1.2D+1L+1E | Combination | Min      | -21.629940 | -9.870077  | -3.973575 | -0.000726     | -0.001420     |
| 1729  | 0.9D+1E    | Combination | Max      | 22.049279  | 9.855744   | 2.198629  | 0.000725      | 0.001432      |
| 1729  | 0.9D+1E    | Combination | Min      | -21.750111 | -9.878581  | -3.661261 | -0.000725     | -0.001423     |
| 1729  | 1.2D+1L+1E | Combination | Max      | 5.954984   | 15.433243  | 2.572986  | 0.001164      | 0.000391      |
|       | y          |             |          |            |            |           |               |               |
| 1729  | 1.2D+1L+1E | Combination | Min      | -5.415473  | -15.439072 | -4.660247 | -0.001166     | -0.000377     |
|       | y          |             |          |            |            |           |               |               |
| 1729  | 0.9D+1Ey   | Combination | Max      | 5.834813   | 15.424739  | 2.885301  | 0.001164      | 0.000388      |
| 1729  | 0.9D+1Ey   | Combination | Min      | -5.535644  | -15.447577 | -4.347933 | -0.001165     | -0.000380     |
| 1729  | 1D+0.5L    | Combination |          | 0.201360   | -0.006532  | -0.846845 | -5.039E-07    | 5.422E-06     |
| 1730  | 1.4D       | Combination |          | 0.145215   | -0.146416  | -1.163437 | 0.000015      | 0.000027      |
| 1730  | 1.2D+1.6L  | Combination |          | 0.175262   | -0.223804  | -1.101632 | 0.000020      | 0.000036      |
| 1730  | 1.2D+1L+1E | Combination | Max      | 31.873207  | 11.914177  | 0.964289  | 0.000740      | 0.001918      |
| 1730  | 1.2D+1L+1E | Combination | Min      | -31.560777 | -12.288057 | -3.089252 | -0.000705     | -0.001856     |
| 1730  | 0.9D+1E    | Combination | Max      | 31.810345  | 12.006992  | 1.278847  | 0.000732      | 0.001905      |
| 1730  | 0.9D+1E    | Combination | Min      | -31.623639 | -12.195241 | -2.774694 | -0.000713     | -0.001870     |
| 1730  | 1.2D+1L+1E | Combination | Max      | 8.350705   | 19.094771  | 2.187509  | 0.001228      | 0.000517      |
|       | y          |             |          |            |            |           |               |               |
| 1730  | 1.2D+1L+1E | Combination | Min      | -8.038275  | -19.468650 | -4.312472 | -0.001193     | -0.000455     |
|       | y          |             |          |            |            |           |               |               |
| 1730  | 0.9D+1Ey   | Combination | Max      | 8.287843   | 19.187586  | 2.502067  | 0.001220      | 0.000504      |
| 1730  | 0.9D+1Ey   | Combination | Min      | -8.101137  | -19.375835 | -3.997914 | -0.001201     | -0.000469     |
| 1730  | 1D+0.5L    | Combination |          | 0.119598   | -0.135303  | -0.863651 | 0.000013      | 0.000023      |
| 1731  | 1.4D       | Combination |          | 0.131557   | -0.191156  | -1.225858 | 0.000015      | 0.000017      |
| 1731  | 1.2D+1.6L  | Combination |          | 0.171874   | -0.266753  | -1.187301 | 0.000021      | 0.000020      |
| 1731  | 1.2D+1L+1E | Combination | Max      | 30.527952  | 11.885986  | 1.528845  | 0.000761      | 0.001865      |
| 1731  | 1.2D+1L+1E | Combination | Min      | -30.228537 | -12.342313 | -3.801023 | -0.000724     | -0.001830     |
| 1731  | 0.9D+1E    | Combination | Max      | 30.462817  | 11.991263  | 1.876882  | 0.000753      | 0.001858      |
| 1731  | 0.9D+1E    | Combination | Min      | -30.293672 | -12.237035 | -3.452986 | -0.000733     | -0.001837     |
| 1731  | 1.2D+1L+1E | Combination | Max      | 7.977403   | 19.052455  | 1.073133  | 0.001262      | 0.000493      |
|       | y          |             |          |            |            |           |               |               |
| 1731  | 1.2D+1L+1E | Combination | Min      | -7.677988  | -19.508783 | -3.345311 | -0.001225     | -0.000457     |
|       | y          |             |          |            |            |           |               |               |
| 1731  | 0.9D+1Ey   | Combination | Max      | 7.912268   | 19.157733  | 1.421170  | 0.001254      | 0.000486      |
| 1731  | 0.9D+1Ey   | Combination | Min      | -7.743123  | -19.403505 | -2.997273 | -0.001234     | -0.000464     |
| 1731  | 1D+0.5L    | Combination |          | 0.112442   | -0.168698  | -0.918290 | 0.000014      | 0.000014      |
| 1732  | 1.4D       | Combination |          | 0.175842   | -0.150583  | -1.278873 | -5.851E-06    | 0.000011      |
| 1732  | 1.2D+1.6L  | Combination |          | 0.215095   | -0.218746  | -1.252651 | -9.631E-06    | 0.000014      |
| 1732  | 1.2D+1L+1E | Combination | Max      | 30.577350  | 10.380837  | 3.540514  | 0.000630      | 0.001828      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1732  | 1.2D+1L+1E      | Combination | Min      | -30.195441 | -10.751073 | -5.928461 | -0.000646     | -0.001804     |
| 1732  | 0.9D+1E         | Combination | Max      | 30.499437  | 10.469152  | 3.912355  | 0.000634      | 0.001823      |
| 1732  | 0.9D+1E         | Combination | Min      | -30.273355 | -10.662759 | -5.556621 | -0.000642     | -0.001809     |
| 1732  | 1.2D+1L+1E<br>y | Combination | Max      | 8.021595   | 19.084154  | 1.160730  | 0.001240      | 0.000480      |
| 1732  | 1.2D+1L+1E<br>y | Combination | Min      | -7.639686  | -19.454391 | -3.548677 | -0.001255     | -0.000456     |
| 1732  | 0.9D+1Ey        | Combination | Max      | 7.943681   | 19.172469  | 1.532571  | 0.001244      | 0.000475      |
| 1732  | 0.9D+1Ey        | Combination | Min      | -7.717599  | -19.366076 | -3.176837 | -0.001251     | -0.000461     |
| 1732  | 1D+0.5L         | Combination |          | 0.145718   | -0.135583  | -0.962379 | -5.622E-06    | 9.119E-06     |
| 1733  | 1.4D            | Combination |          | 0.137666   | -0.099622  | -1.443750 | 0.000011      | 0.000012      |
| 1733  | 1.2D+1.6L       | Combination |          | 0.167497   | -0.137004  | -1.454981 | 0.000014      | 0.000014      |
| 1733  | 1.2D+1L+1E      | Combination | Max      | 31.873752  | 6.812835   | 0.073902  | 0.000454      | 0.001929      |
| 1733  | 1.2D+1L+1E      | Combination | Min      | -31.575880 | -7.048132  | -2.820753 | -0.000429     | -0.001905     |
| 1733  | 0.9D+1E         | Combination | Max      | 31.813316  | 6.866441   | 0.519203  | 0.000449      | 0.001924      |
| 1733  | 0.9D+1E         | Combination | Min      | -31.636316 | -6.994526  | -2.375453 | -0.000434     | -0.001909     |
| 1733  | 1.2D+1L+1E<br>y | Combination | Max      | 8.345280   | 19.169101  | 1.303497  | 0.001239      | 0.000506      |
| 1733  | 1.2D+1L+1E<br>y | Combination | Min      | -8.047409  | -19.404399 | -4.050349 | -0.001214     | -0.000482     |
| 1733  | 0.9D+1Ey        | Combination | Max      | 8.284844   | 19.222707  | 1.748798  | 0.001234      | 0.000501      |
| 1733  | 0.9D+1Ey        | Combination | Min      | -8.107845  | -19.350792 | -3.605048 | -0.001220     | -0.000487     |
| 1733  | 1D+0.5L         | Combination |          | 0.113801   | -0.087288  | -1.099213 | 9.416E-06     | 9.394E-06     |
| 1734  | 1.4D            | Combination |          | 0.162066   | -0.114559  | -1.470476 | 2.181E-06     | 0.000013      |
| 1734  | 1.2D+1.6L       | Combination |          | 0.192145   | -0.147477  | -1.487104 | -5.620E-06    | 0.000016      |
| 1734  | 1.2D+1L+1E      | Combination | Max      | 31.898091  | 6.669284   | 1.678837  | 0.000365      | 0.001911      |
| 1734  | 1.2D+1L+1E      | Combination | Min      | -31.553724 | -6.927276  | -4.483023 | -0.000371     | -0.001883     |
| 1734  | 0.9D+1E         | Combination | Max      | 31.830093  | 6.724635   | 2.135624  | 0.000369      | 0.001905      |
| 1734  | 0.9D+1E         | Combination | Min      | -31.621722 | -6.871925  | -4.026236 | -0.000367     | -0.001888     |
| 1734  | 1.2D+1L+1E<br>y | Combination | Max      | 8.367834   | 19.169246  | 1.363883  | 0.001020      | 0.000503      |
| 1734  | 1.2D+1L+1E<br>y | Combination | Min      | -8.023467  | -19.427238 | -4.168068 | -0.001025     | -0.000475     |
| 1734  | 0.9D+1Ey        | Combination | Max      | 8.299836   | 19.224596  | 1.820670  | 0.001024      | 0.000497      |
| 1734  | 0.9D+1Ey        | Combination | Min      | -8.091465  | -19.371887 | -3.711281 | -0.001021     | -0.000480     |
| 1734  | 1D+0.5L         | Combination |          | 0.132396   | -0.097229  | -1.121182 | -7.824E-07    | 0.000011      |
| 1735  | 1.4D            | Combination |          | 0.149767   | -0.148027  | -1.490774 | 0.000011      | 0.000014      |
| 1735  | 1.2D+1.6L       | Combination |          | 0.189218   | -0.186074  | -1.514696 | 0.000013      | 0.000017      |
| 1735  | 1.2D+1L+1E      | Combination | Max      | 30.630106  | 6.768546   | 0.177265  | 0.000454      | 0.001854      |
| 1735  | 1.2D+1L+1E      | Combination | Min      | -30.297305 | -7.096299  | -3.028989 | -0.000431     | -0.001824     |
| 1735  | 0.9D+1E         | Combination | Max      | 30.559985  | 6.837262   | 0.644773  | 0.000449      | 0.001848      |
| 1735  | 0.9D+1E         | Combination | Min      | -30.367427 | -7.027582  | -2.561482 | -0.000436     | -0.001831     |
| 1735  | 1.2D+1L+1E<br>y | Combination | Max      | 8.013786   | 19.123626  | 1.191177  | 0.001243      | 0.000488      |
| 1735  | 1.2D+1L+1E<br>y | Combination | Min      | -7.680985  | -19.451379 | -4.042901 | -0.001220     | -0.000458     |
| 1735  | 0.9D+1Ey        | Combination | Max      | 7.943665   | 19.192343  | 1.658684  | 0.001238      | 0.000482      |
| 1735  | 0.9D+1Ey        | Combination | Min      | -7.751107  | -19.382663 | -3.575393 | -0.001224     | -0.000464     |
| 1735  | 1D+0.5L         | Combination |          | 0.125991   | -0.124232  | -1.138866 | 8.798E-06     | 0.000011      |
| 1736  | 1.4D            | Combination |          | 0.173772   | -0.119687  | -1.522915 | -7.306E-06    | 0.000016      |
| 1736  | 1.2D+1.6L       | Combination |          | 0.213691   | -0.152680  | -1.553773 | 3.762E-06     | 0.000019      |
| 1736  | 1.2D+1L+1E      | Combination | Max      | 30.653410  | 6.664220   | 1.251776  | 0.000373      | 0.001811      |
| 1736  | 1.2D+1L+1E      | Combination | Min      | -30.274586 | -6.932011  | -4.173010 | -0.000373     | -0.001776     |
| 1736  | 0.9D+1E         | Combination | Max      | 30.575708  | 6.721174   | 1.733376  | 0.000369      | 0.001804      |
| 1736  | 0.9D+1E         | Combination | Min      | -30.352288 | -6.875057  | -3.691410 | -0.000378     | -0.001783     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1736  | 1.2D+1L+1E<br>y | Combination | Max      | 8.037417   | 19.163622  | 1.170508  | 0.001056      | 0.000479      |
| 1736  | 1.2D+1L+1E<br>y | Combination | Min      | -7.658593  | -19.431413 | -4.091742 | -0.001056     | -0.000445     |
| 1736  | 0.9D+1Ey        | Combination | Max      | 7.959715   | 19.220576  | 1.652108  | 0.001051      | 0.000472      |
| 1736  | 0.9D+1Ey        | Combination | Min      | -7.736295  | -19.374459 | -3.610142 | -0.001060     | -0.000452     |
| 1736  | 1D+0.5L         | Combination |          | 0.144355   | -0.101144  | -1.165427 | -2.086E-06    | 0.000013      |
| 1737  | 1.4D            | Combination |          | 0.157385   | -0.031206  | -1.412886 | 7.321E-06     | 7.911E-06     |
| 1737  | 1.2D+1.6L       | Combination |          | 0.187358   | -0.014529  | -1.433188 | 6.476E-06     | 8.650E-06     |
| 1737  | 1.2D+1L+1E      | Combination | Max      | 31.887276  | 12.974828  | 0.446732  | 0.000747      | 0.001845      |
| 1737  | 1.2D+1L+1E      | Combination | Min      | -31.551903 | -13.013050 | -3.146501 | -0.000735     | -0.001829     |
| 1737  | 0.9D+1E         | Combination | Max      | 31.820765  | 12.973878  | 0.888333  | 0.000746      | 0.001842      |
| 1737  | 0.9D+1E         | Combination | Min      | -31.618413 | -13.014000 | -2.704901 | -0.000736     | -0.001832     |
| 1737  | 1.2D+1L+1E<br>y | Combination | Max      | 8.362088   | 19.680348  | 1.532336  | 0.001189      | 0.000482      |
| 1737  | 1.2D+1L+1E<br>y | Combination | Min      | -8.026715  | -19.718570 | -4.232104 | -0.001177     | -0.000467     |
| 1737  | 0.9D+1Ey        | Combination | Max      | 8.295578   | 19.679398  | 1.973936  | 0.001188      | 0.000480      |
| 1737  | 0.9D+1Ey        | Combination | Min      | -8.093226  | -19.719520 | -3.790504 | -0.001178     | -0.000469     |
| 1737  | 1D+0.5L         | Combination |          | 0.128810   | -0.018472  | -1.078624 | 5.292E-06     | 6.235E-06     |
| 1738  | 1.4D            | Combination |          | 0.196776   | -0.075897  | -1.439811 | 7.711E-06     | 9.381E-06     |
| 1738  | 1.2D+1.6L       | Combination |          | 0.236161   | -0.059825  | -1.456751 | 7.752E-06     | 0.000012      |
| 1738  | 1.2D+1L+1E      | Combination | Max      | 30.595080  | 12.945101  | 1.205130  | 0.000780      | 0.001852      |
| 1738  | 1.2D+1L+1E      | Combination | Min      | -30.173379 | -13.068673 | -3.951661 | -0.000765     | -0.001830     |
| 1738  | 0.9D+1E         | Combination | Max      | 30.510729  | 12.958097  | 1.652802  | 0.000778      | 0.001847      |
| 1738  | 0.9D+1E         | Combination | Min      | -30.257731 | -13.055678 | -3.503988 | -0.000768     | -0.001835     |
| 1738  | 1.2D+1L+1E<br>y | Combination | Max      | 8.038354   | 19.647326  | 1.111590  | 0.001238      | 0.000484      |
| 1738  | 1.2D+1L+1E<br>y | Combination | Min      | -7.616654  | -19.770899 | -3.858121 | -0.001223     | -0.000463     |
| 1738  | 0.9D+1Ey        | Combination | Max      | 7.954003   | 19.660322  | 1.559262  | 0.001235      | 0.000480      |
| 1738  | 0.9D+1Ey        | Combination | Min      | -7.701005  | -19.757903 | -3.410448 | -0.001225     | -0.000468     |
| 1738  | 1D+0.5L         | Combination |          | 0.161647   | -0.052578  | -1.098008 | 5.865E-06     | 8.042E-06     |
| 1739  | 1.4D            | Combination |          | 0.291264   | -0.211742  | -1.556102 | 0.000025      | 0.000016      |
| 1739  | 1.2D+1.6L       | Combination |          | 0.379112   | -0.273080  | -1.596798 | 0.000036      | 0.000022      |
| 1739  | 1.2D+1L+1E      | Combination | Max      | 27.223785  | 8.736246   | 3.321914  | 0.000596      | 0.001633      |
| 1739  | 1.2D+1L+1E      | Combination | Min      | -26.562654 | -9.213716  | -6.318262 | -0.000534     | -0.001596     |
| 1739  | 0.9D+1E         | Combination | Max      | 27.080461  | 8.838861   | 3.819737  | 0.000581      | 0.001625      |
| 1739  | 0.9D+1E         | Combination | Min      | -26.705979 | -9.111101  | -5.820439 | -0.000549     | -0.001604     |
| 1739  | 1.2D+1L+1E<br>y | Combination | Max      | 7.269700   | 19.198103  | 0.796088  | 0.001206      | 0.000435      |
| 1739  | 1.2D+1L+1E<br>y | Combination | Min      | -6.608570  | -19.675573 | -3.792436 | -0.001145     | -0.000397     |
| 1739  | 0.9D+1Ey        | Combination | Max      | 7.126376   | 19.300718  | 1.293911  | 0.001191      | 0.000426      |
| 1739  | 0.9D+1Ey        | Combination | Min      | -6.751894  | -19.572958 | -3.294613 | -0.001159     | -0.000406     |
| 1739  | 1D+0.5L         | Combination |          | 0.248501   | -0.179865  | -1.193688 | 0.000023      | 0.000014      |
| 1740  | 1.4D            | Combination |          | 0.238344   | -0.201169  | -1.486309 | 0.000016      | 0.000020      |
| 1740  | 1.2D+1.6L       | Combination |          | 0.325124   | -0.271084  | -1.504131 | 0.000021      | 0.000026      |
| 1740  | 1.2D+1L+1E      | Combination | Max      | 27.156900  | 9.995746   | 0.385702  | 0.000664      | 0.001652      |
| 1740  | 1.2D+1L+1E      | Combination | Min      | -26.597274 | -10.463924 | -3.221350 | -0.000627     | -0.001607     |
| 1740  | 0.9D+1E         | Combination | Max      | 27.030308  | 10.100512  | 0.848042  | 0.000656      | 0.001642      |
| 1740  | 0.9D+1E         | Combination | Min      | -26.723866 | -10.359158 | -2.759011 | -0.000635     | -0.001616     |
| 1740  | 1.2D+1L+1E<br>y | Combination | Max      | 7.214070   | 19.264149  | 0.601022  | 0.001272      | 0.000442      |
| 1740  | 1.2D+1L+1E<br>y | Combination | Min      | -6.654444  | -19.732327 | -3.436671 | -0.001236     | -0.000397     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1740  | 0.9D+1Ey   | Combination | Max      | 7.087478   | 19.368915  | 1.063362  | 0.001264      | 0.000432      |
| 1740  | 0.9D+1Ey   | Combination | Min      | -6.781036  | -19.627561 | -2.974331 | -0.001244     | -0.000407     |
| 1740  | 1D+0.5L    | Combination |          | 0.208005   | -0.174521  | -1.133572 | 0.000014      | 0.000017      |
| 1741  | 1.4D       | Combination |          | 0.299443   | -0.254425  | -1.564967 | 0.000020      | -0.000040     |
| 1741  | 1.2D+1.6L  | Combination |          | 0.397862   | -0.325459  | -1.609343 | 0.000027      | -0.000051     |
| 1741  | 1.2D+1L+1E | Combination | Max      | 27.114825  | 9.952006   | 1.125031  | 0.000662      | 0.001184      |
| 1741  | 1.2D+1L+1E | Combination | Min      | -26.424999 | -10.522389 | -4.142761 | -0.000615     | -0.001274     |
| 1741  | 0.9D+1E    | Combination | Max      | 26.962411  | 10.073639  | 1.627845  | 0.000651      | 0.001203      |
| 1741  | 0.9D+1E    | Combination | Min      | -26.577413 | -10.400757 | -3.639946 | -0.000625     | -0.001254     |
| 1741  | 1.2D+1L+1E | Combination | Max      | 7.289326   | 19.220565  | 2.190979  | 0.001259      | 0.000285      |
|       | y          |             |          |            |            |           |               |               |
| 1741  | 1.2D+1L+1E | Combination | Min      | -6.599500  | -19.790948 | -5.208708 | -0.001212     | -0.000374     |
|       | y          |             |          |            |            |           |               |               |
| 1741  | 0.9D+1Ey   | Combination | Max      | 7.136912   | 19.342198  | 2.693793  | 0.001249      | 0.000304      |
| 1741  | 0.9D+1Ey   | Combination | Min      | -6.751914  | -19.669316 | -4.705894 | -0.001223     | -0.000355     |
| 1741  | 1D+0.5L    | Combination |          | 0.258012   | -0.215289  | -1.201566 | 0.000018      | -0.000034     |
| 1742  | 1.4D       | Combination |          | 0.282484   | -0.124378  | -1.396832 | -0.000027     | 0.000020      |
| 1742  | 1.2D+1.6L  | Combination |          | 0.370080   | -0.157243  | -1.427884 | -0.000037     | 0.000026      |
| 1742  | 1.2D+1L+1E | Combination | Max      | 27.284728  | 6.660372   | 1.331763  | 0.000339      | 0.001622      |
| 1742  | 1.2D+1L+1E | Combination | Min      | -26.640531 | -6.936883  | -4.014582 | -0.000403     | -0.001576     |
| 1742  | 0.9D+1E    | Combination | Max      | 27.144227  | 6.718670   | 1.775209  | 0.000353      | 0.001612      |
| 1742  | 0.9D+1E    | Combination | Min      | -26.781033 | -6.878585  | -3.571136 | -0.000388     | -0.001586     |
| 1742  | 1.2D+1L+1E | Combination | Max      | 7.278862   | 19.162178  | 1.446632  | 0.001019      | 0.000435      |
|       | y          |             |          |            |            |           |               |               |
| 1742  | 1.2D+1L+1E | Combination | Min      | -6.634665  | -19.438689 | -4.129450 | -0.001082     | -0.000390     |
|       | y          |             |          |            |            |           |               |               |
| 1742  | 0.9D+1Ey   | Combination | Max      | 7.138361   | 19.220476  | 1.890078  | 0.001033      | 0.000425      |
| 1742  | 0.9D+1Ey   | Combination | Min      | -6.775167  | -19.380391 | -3.686004 | -0.001068     | -0.000400     |
| 1742  | 1D+0.5L    | Combination |          | 0.241759   | -0.104664  | -1.069800 | -0.000024     | 0.000017      |
| 1743  | 1.4D       | Combination |          | 0.258338   | -0.116697  | -1.356308 | 0.000011      | 0.000019      |
| 1743  | 1.2D+1.6L  | Combination |          | 0.345468   | -0.154195  | -1.374126 | 0.000014      | 0.000025      |
| 1743  | 1.2D+1L+1E | Combination | Max      | 27.258534  | 6.795127   | 0.062051  | 0.000453      | 0.001657      |
| 1743  | 1.2D+1L+1E | Combination | Min      | -26.660625 | -7.062890  | -2.651621 | -0.000429     | -0.001614     |
| 1743  | 0.9D+1E    | Combination | Max      | 27.125653  | 6.853989   | 0.484923  | 0.000448      | 0.001647      |
| 1743  | 0.9D+1E    | Combination | Min      | -26.793505 | -7.004028  | -2.228749 | -0.000434     | -0.001624     |
| 1743  | 1.2D+1L+1E | Combination | Max      | 7.254360   | 19.182692  | 1.458074  | 0.001240      | 0.000443      |
|       | y          |             |          |            |            |           |               |               |
| 1743  | 1.2D+1L+1E | Combination | Min      | -6.656451  | -19.450455 | -4.047643 | -0.001215     | -0.000400     |
|       | y          |             |          |            |            |           |               |               |
| 1743  | 0.9D+1Ey   | Combination | Max      | 7.121480   | 19.241554  | 1.880946  | 0.001234      | 0.000433      |
| 1743  | 0.9D+1Ey   | Combination | Min      | -6.789331  | -19.391593 | -3.624771 | -0.001221     | -0.000409     |
| 1743  | 1D+0.5L    | Combination |          | 0.223288   | -0.100283  | -1.034909 | 9.146E-06     | 0.000016      |
| 1744  | 1.4D       | Combination |          | 0.294035   | -0.165408  | -1.402347 | 9.957E-06     | 0.000021      |
| 1744  | 1.2D+1.6L  | Combination |          | 0.392276   | -0.203943  | -1.434133 | 0.000013      | 0.000027      |
| 1744  | 1.2D+1L+1E | Combination | Max      | 27.115737  | 6.749118   | 0.049324  | 0.000451      | 0.001629      |
| 1744  | 1.2D+1L+1E | Combination | Min      | -26.436370 | -7.110382  | -2.743500 | -0.000428     | -0.001581     |
| 1744  | 0.9D+1E    | Combination | Max      | 26.965076  | 6.823416   | 0.494903  | 0.000446      | 0.001618      |
| 1744  | 0.9D+1E    | Combination | Min      | -26.587031 | -7.036084  | -2.297921 | -0.000433     | -0.001592     |
| 1744  | 1.2D+1L+1E | Combination | Max      | 7.285948   | 19.137317  | 1.418742  | 0.001236      | 0.000439      |
|       | y          |             |          |            |            |           |               |               |
| 1744  | 1.2D+1L+1E | Combination | Min      | -6.606580  | -19.498581 | -4.112918 | -0.001213     | -0.000392     |
|       | y          |             |          |            |            |           |               |               |
| 1744  | 0.9D+1Ey   | Combination | Max      | 7.135286   | 19.211615  | 1.864321  | 0.001231      | 0.000429      |
| 1744  | 0.9D+1Ey   | Combination | Min      | -6.757242  | -19.424283 | -3.667339 | -0.001218     | -0.000402     |
| 1744  | 1D+0.5L    | Combination |          | 0.253852   | -0.137575  | -1.074215 | 8.521E-06     | 0.000018      |
| 1745  | 1.4D       | Combination |          | 0.316299   | -0.128609  | -1.445894 | 0.000013      | 0.000021      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1745  | 1.2D+1.6L       | Combination |          | 0.415208   | -0.161485  | -1.492509 | 0.000017      | 0.000029      |
| 1745  | 1.2D+1L+1E      | Combination | Max      | 27.137495  | 6.657435   | 1.194376  | 0.000434      | 0.001603      |
| 1745  | 1.2D+1L+1E      | Combination | Min      | -26.415149 | -6.941969  | -3.989515 | -0.000404     | -0.001553     |
| 1745  | 0.9D+1E         | Combination | Max      | 26.979657  | 6.717025   | 1.662443  | 0.000427      | 0.001592      |
| 1745  | 0.9D+1E         | Combination | Min      | -26.572987 | -6.882379  | -3.521449 | -0.000410     | -0.001564     |
| 1745  | 1.2D+1L+1E<br>y | Combination | Max      | 7.306608   | 19.161215  | 1.406030  | 0.001198      | 0.000433      |
| 1745  | 1.2D+1L+1E<br>y | Combination | Min      | -6.584263  | -19.445749 | -4.201170 | -0.001168     | -0.000384     |
| 1745  | 0.9D+1Ey        | Combination | Max      | 7.148771   | 19.220805  | 1.874097  | 0.001192      | 0.000422      |
| 1745  | 0.9D+1Ey        | Combination | Min      | -6.742100  | -19.386159 | -3.733103 | -0.001175     | -0.000395     |
| 1745  | 1D+0.5L         | Combination |          | 0.270958   | -0.107879  | -1.111897 | 0.000011      | 0.000018      |
| 1746  | 1.4D            | Combination |          | 0.272919   | -0.004619  | -1.200816 | 0.000016      | 0.000020      |
| 1746  | 1.2D+1.6L       | Combination |          | 0.361062   | 0.009736   | -1.124968 | 0.000024      | 0.000026      |
| 1746  | 1.2D+1L+1E      | Combination | Max      | 27.157685  | 10.793639  | 3.627243  | 0.000677      | 0.001635      |
| 1746  | 1.2D+1L+1E      | Combination | Min      | -26.530910 | -10.784439 | -5.805406 | -0.000638     | -0.001589     |
| 1746  | 0.9D+1E         | Combination | Max      | 27.019746  | 10.786070  | 3.944372  | 0.000668      | 0.001625      |
| 1746  | 0.9D+1E         | Combination | Min      | -26.668849 | -10.792009 | -5.488278 | -0.000647     | -0.001599     |
| 1746  | 1.2D+1L+1E<br>y | Combination | Max      | 7.240711   | 19.212100  | 1.007376  | 0.001172      | 0.000438      |
| 1746  | 1.2D+1L+1E<br>y | Combination | Min      | -6.613936  | -19.202901 | -3.185539 | -0.001132     | -0.000392     |
| 1746  | 0.9D+1Ey        | Combination | Max      | 7.102772   | 19.204531  | 1.324505  | 0.001162      | 0.000428      |
| 1746  | 0.9D+1Ey        | Combination | Min      | -6.751875  | -19.210470 | -2.868411 | -0.001142     | -0.000402     |
| 1746  | 1D+0.5L         | Combination |          | 0.234671   | 0.000980   | -0.887631 | 0.000015      | 0.000017      |
| 1747  | 1.4D            | Combination |          | 0.316386   | 0.030656   | -1.269263 | 2.288E-06     | 0.000015      |
| 1747  | 1.2D+1.6L       | Combination |          | 0.402279   | 0.054255   | -1.215948 | 8.765E-07     | 0.000021      |
| 1747  | 1.2D+1L+1E      | Combination | Max      | 27.180798  | 12.194782  | 0.767077  | 0.000760      | 0.001653      |
| 1747  | 1.2D+1L+1E      | Combination | Min      | -26.474559 | -12.107256 | -3.102967 | -0.000757     | -0.001617     |
| 1747  | 0.9D+1E         | Combination | Max      | 27.031069  | 12.170726  | 1.119067  | 0.000760      | 0.001644      |
| 1747  | 0.9D+1E         | Combination | Min      | -26.624288 | -12.131311 | -2.750977 | -0.000757     | -0.001625     |
| 1747  | 1.2D+1L+1E<br>y | Combination | Max      | 7.277417   | 19.184948  | 0.649913  | 0.001237      | 0.000439      |
| 1747  | 1.2D+1L+1E<br>y | Combination | Min      | -6.571178  | -19.097422 | -2.985803 | -0.001235     | -0.000403     |
| 1747  | 0.9D+1Ey        | Combination | Max      | 7.127688   | 19.160892  | 1.001903  | 0.001238      | 0.000431      |
| 1747  | 0.9D+1Ey        | Combination | Min      | -6.720906  | -19.121477 | -2.633813 | -0.001235     | -0.000411     |
| 1747  | 1D+0.5L         | Combination |          | 0.266956   | 0.030640   | -0.946619 | 1.295E-06     | 0.000013      |
| 1748  | 1.4D            | Combination |          | 0.294018   | -0.020779  | -1.278834 | 2.629E-06     | 6.799E-06     |
| 1748  | 1.2D+1.6L       | Combination |          | 0.393587   | 0.004845   | -1.220824 | 1.757E-06     | 7.956E-06     |
| 1748  | 1.2D+1L+1E      | Combination | Max      | 27.134409  | 12.159711  | 1.937063  | 0.000761      | 0.001495      |
| 1748  | 1.2D+1L+1E      | Combination | Min      | -26.453414 | -12.167012 | -4.285200 | -0.000757     | -0.001480     |
| 1748  | 0.9D+1E         | Combination | Max      | 26.982923  | 12.150004  | 2.289024  | 0.000761      | 0.001492      |
| 1748  | 0.9D+1E         | Combination | Min      | -26.604900 | -12.176720 | -3.933239 | -0.000757     | -0.001483     |
| 1748  | 1.2D+1L+1E<br>y | Combination | Max      | 7.291025   | 19.153924  | 2.663033  | 0.001235      | 0.000408      |
| 1748  | 1.2D+1L+1E<br>y | Combination | Min      | -6.610030  | -19.161225 | -5.011171 | -0.001231     | -0.000393     |
| 1748  | 0.9D+1Ey        | Combination | Max      | 7.139539   | 19.144217  | 3.014995  | 0.001235      | 0.000405      |
| 1748  | 0.9D+1Ey        | Combination | Min      | -6.761516  | -19.170933 | -4.659210 | -0.001231     | -0.000396     |
| 1748  | 1D+0.5L         | Combination |          | 0.254254   | -0.007762  | -0.952415 | 1.723E-06     | 5.521E-06     |
| 1749  | 1.4D            | Combination |          | 0.184290   | -0.195497  | -1.281787 | 0.000017      | 0.000028      |
| 1749  | 1.2D+1.6L       | Combination |          | 0.222065   | -0.290826  | -1.214050 | 0.000022      | 0.000037      |
| 1749  | 1.2D+1L+1E      | Combination | Max      | 37.875194  | 14.168846  | 0.944087  | 0.000767      | 0.001968      |
| 1749  | 1.2D+1L+1E      | Combination | Min      | -37.479142 | -14.658056 | -3.285656 | -0.000728     | -0.001904     |
| 1749  | 0.9D+1E         | Combination | Max      | 37.795640  | 14.287774  | 1.290865  | 0.000758      | 0.001954      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1749  | 0.9D+1E    | Combination | Min      | -37.558696 | -14.539128 | -2.938878 | -0.000737     | -0.001918     |
| 1749  | 1.2D+1L+1E | Combination | Max      | 9.925678   | 22.995711  | 2.206577  | 0.001294      | 0.000531      |
|       | y          |             |          |            |            |           |               |               |
| 1749  | 1.2D+1L+1E | Combination | Min      | -9.529625  | -23.484920 | -4.548146 | -0.001255     | -0.000466     |
|       | y          |             |          |            |            |           |               |               |
| 1749  | 0.9D+1Ey   | Combination | Max      | 9.846124   | 23.114639  | 2.553355  | 0.001285      | 0.000516      |
| 1749  | 0.9D+1Ey   | Combination | Min      | -9.609179  | -23.365992 | -4.201368 | -0.001263     | -0.000481     |
| 1749  | 1D+0.5L    | Combination |          | 0.151668   | -0.178159  | -0.951617 | 0.000014      | 0.000024      |
| 1750  | 1.4D       | Combination |          | 0.175734   | -0.238127  | -1.352772 | 0.000017      | 0.000012      |
| 1750  | 1.2D+1.6L  | Combination |          | 0.225853   | -0.331770  | -1.310511 | 0.000024      | 0.000016      |
| 1750  | 1.2D+1L+1E | Combination | Max      | 36.330263  | 14.140950  | 1.523070  | 0.000788      | 0.001903      |
| 1750  | 1.2D+1L+1E | Combination | Min      | -35.934975 | -14.708745 | -4.030848 | -0.000747     | -0.001875     |
| 1750  | 0.9D+1E    | Combination | Max      | 36.245591  | 14.271766  | 1.907320  | 0.000779      | 0.001897      |
| 1750  | 0.9D+1E    | Combination | Min      | -36.019647 | -14.577929 | -3.646599 | -0.000757     | -0.001881     |
| 1750  | 1.2D+1L+1E | Combination | Max      | 9.503337   | 22.959383  | 1.105190  | 0.001328      | 0.000500      |
|       | y          |             |          |            |            |           |               |               |
| 1750  | 1.2D+1L+1E | Combination | Min      | -9.108049  | -23.527177 | -3.612968 | -0.001288     | -0.000472     |
|       | y          |             |          |            |            |           |               |               |
| 1750  | 0.9D+1Ey   | Combination | Max      | 9.418665   | 23.090198  | 1.489440  | 0.001319      | 0.000494      |
| 1750  | 0.9D+1Ey   | Combination | Min      | -9.192721  | -23.396362 | -3.228719 | -0.001297     | -0.000478     |
| 1750  | 1D+0.5L    | Combination |          | 0.149032   | -0.209985  | -1.013451 | 0.000015      | 0.000011      |
| 1751  | 1.4D       | Combination |          | 0.217360   | -0.195690  | -1.410561 | -3.993E-06    | 0.000018      |
| 1751  | 1.2D+1.6L  | Combination |          | 0.266497   | -0.279950  | -1.381809 | -7.386E-06    | 0.000021      |
| 1751  | 1.2D+1L+1E | Combination | Max      | 36.369617  | 12.372056  | 3.537992  | 0.000655      | 0.001894      |
| 1751  | 1.2D+1L+1E | Combination | Min      | -35.896765 | -12.847795 | -6.172043 | -0.000667     | -0.001857     |
| 1751  | 0.9D+1E    | Combination | Max      | 36.272922  | 12.484124  | 3.948229  | 0.000658      | 0.001887      |
| 1751  | 0.9D+1E    | Combination | Min      | -35.993460 | -12.735726 | -5.761807 | -0.000664     | -0.001864     |
| 1751  | 1.2D+1L+1E | Combination | Max      | 9.543117   | 22.975771  | 1.175123  | 0.001301      | 0.000501      |
|       | y          |             |          |            |            |           |               |               |
| 1751  | 1.2D+1L+1E | Combination | Min      | -9.070265  | -23.451510 | -3.809173 | -0.001313     | -0.000464     |
|       | y          |             |          |            |            |           |               |               |
| 1751  | 0.9D+1Ey   | Combination | Max      | 9.446422   | 23.087840  | 1.585359  | 0.001305      | 0.000494      |
| 1751  | 0.9D+1Ey   | Combination | Min      | -9.166960  | -23.339441 | -3.398937 | -0.001310     | -0.000471     |
| 1751  | 1D+0.5L    | Combination |          | 0.180316   | -0.174846  | -1.061530 | -4.091E-06    | 0.000014      |
| 1752  | 1.4D       | Combination |          | 0.177230   | -0.134452  | -1.590190 | 0.000012      | 0.000012      |
| 1752  | 1.2D+1.6L  | Combination |          | 0.214790   | -0.181504  | -1.602631 | 0.000015      | 0.000015      |
| 1752  | 1.2D+1L+1E | Combination | Max      | 37.874923  | 8.178000   | 0.004667  | 0.000477      | 0.001977      |
| 1752  | 1.2D+1L+1E | Combination | Min      | -37.492502 | -8.491314  | -3.030221 | -0.000450     | -0.001951     |
| 1752  | 0.9D+1E    | Combination | Max      | 37.797647  | 8.248223   | 0.495179  | 0.000471      | 0.001972      |
| 1752  | 0.9D+1E    | Combination | Min      | -37.569779 | -8.421091  | -2.539709 | -0.000455     | -0.001956     |
| 1752  | 1.2D+1L+1E | Combination | Max      | 9.920308   | 23.035918  | 1.296556  | 0.001301      | 0.000519      |
|       | y          |             |          |            |            |           |               |               |
| 1752  | 1.2D+1L+1E | Combination | Min      | -9.537887  | -23.349232 | -4.322109 | -0.001274     | -0.000493     |
|       | y          |             |          |            |            |           |               |               |
| 1752  | 0.9D+1Ey   | Combination | Max      | 9.843032   | 23.106142  | 1.787068  | 0.001295      | 0.000514      |
| 1752  | 0.9D+1Ey   | Combination | Min      | -9.615164  | -23.279009 | -3.831597 | -0.001279     | -0.000498     |
| 1752  | 1D+0.5L    | Combination |          | 0.146243   | -0.116743  | -1.210728 | 0.000010      | 0.000010      |
| 1753  | 1.4D       | Combination |          | 0.200222   | -0.145922  | -1.618967 | -2.036E-06    | 0.000014      |
| 1753  | 1.2D+1.6L  | Combination |          | 0.238010   | -0.187440  | -1.637352 | -9.903E-06    | 0.000017      |
| 1753  | 1.2D+1L+1E | Combination | Max      | 37.895353  | 8.009491   | 1.602910  | 0.000377      | 0.001962      |
| 1753  | 1.2D+1L+1E | Combination | Min      | -37.469127 | -8.337598  | -4.690364 | -0.000391     | -0.001931     |
| 1753  | 0.9D+1E    | Combination | Max      | 37.810954  | 8.079737   | 2.105873  | 0.000383      | 0.001956      |
| 1753  | 0.9D+1E    | Combination | Min      | -37.553526 | -8.267351  | -4.187401 | -0.000385     | -0.001937     |
| 1753  | 1.2D+1L+1E | Combination | Max      | 9.940919   | 23.035882  | 1.362474  | 0.001062      | 0.000516      |
|       | y          |             |          |            |            |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1753  | 1.2D+1L+1E<br>y | Combination | Min      | -9.514693  | -23.363989 | -4.449929 | -0.001076     | -0.000486     |
| 1753  | 0.9D+1Ey        | Combination | Max      | 9.856520   | 23.106128  | 1.865437  | 0.001068      | 0.000510      |
| 1753  | 0.9D+1Ey        | Combination | Min      | -9.599092  | -23.293742 | -3.946966 | -0.001071     | -0.000492     |
| 1753  | 1D+0.5L         | Combination |          | 0.163763   | -0.123719  | -1.234425 | -4.004E-06    | 0.000012      |
| 1754  | 1.4D            | Combination |          | 0.192913   | -0.180244  | -1.644111 | 0.000011      | 0.000015      |
| 1754  | 1.2D+1.6L       | Combination |          | 0.242141   | -0.227935  | -1.670869 | 0.000014      | 0.000018      |
| 1754  | 1.2D+1L+1E      | Combination | Max      | 36.421372  | 8.135692   | 0.106637  | 0.000477      | 0.001903      |
| 1754  | 1.2D+1L+1E      | Combination | Min      | -35.994680 | -8.536482  | -3.252152 | -0.000451     | -0.001872     |
| 1754  | 0.9D+1E         | Combination | Max      | 36.332041  | 8.220216   | 0.622467  | 0.000471      | 0.001897      |
| 1754  | 0.9D+1E         | Combination | Min      | -36.084010 | -8.451958  | -2.736323 | -0.000457     | -0.001878     |
| 1754  | 1.2D+1L+1E<br>y | Combination | Max      | 9.536104   | 22.993077  | 1.176453  | 0.001304      | 0.000501      |
| 1754  | 1.2D+1L+1E<br>y | Combination | Min      | -9.109412  | -23.393867 | -4.321968 | -0.001279     | -0.000469     |
| 1754  | 0.9D+1Ey        | Combination | Max      | 9.446774   | 23.077601  | 1.692282  | 0.001299      | 0.000494      |
| 1754  | 0.9D+1Ey        | Combination | Min      | -9.198743  | -23.309343 | -3.806139 | -0.001284     | -0.000476     |
| 1754  | 1D+0.5L         | Combination |          | 0.161791   | -0.151696  | -1.256125 | 9.494E-06     | 0.000012      |
| 1755  | 1.4D            | Combination |          | 0.215670   | -0.150552  | -1.678258 | 4.242E-06     | 0.000017      |
| 1755  | 1.2D+1.6L       | Combination |          | 0.265360   | -0.192135  | -1.712582 | 0.000016      | 0.000021      |
| 1755  | 1.2D+1L+1E      | Combination | Max      | 36.441651  | 8.004874   | 1.158458  | 0.000402      | 0.001860      |
| 1755  | 1.2D+1L+1E      | Combination | Min      | -35.971306 | -8.341826  | -4.378065 | -0.000379     | -0.001823     |
| 1755  | 0.9D+1E         | Combination | Max      | 36.345124  | 8.076567   | 1.689381  | 0.000393      | 0.001852      |
| 1755  | 0.9D+1E         | Combination | Min      | -36.067834 | -8.270133  | -3.847141 | -0.000388     | -0.001831     |
| 1755  | 1.2D+1L+1E<br>y | Combination | Max      | 9.558054   | 23.030843  | 1.148497  | 0.001116      | 0.000493      |
| 1755  | 1.2D+1L+1E<br>y | Combination | Min      | -9.087709  | -23.367794 | -4.368104 | -0.001093     | -0.000456     |
| 1755  | 0.9D+1Ey        | Combination | Max      | 9.461526   | 23.102535  | 1.679421  | 0.001107      | 0.000485      |
| 1755  | 0.9D+1Ey        | Combination | Min      | -9.184237  | -23.296102 | -3.837181 | -0.001102     | -0.000464     |
| 1755  | 1D+0.5L         | Combination |          | 0.179206   | -0.127253  | -1.284404 | 6.892E-06     | 0.000014      |
| 1756  | 1.4D            | Combination |          | 0.195661   | -0.052116  | -1.555878 | 8.759E-06     | 9.117E-06     |
| 1756  | 1.2D+1.6L       | Combination |          | 0.233367   | -0.033838  | -1.577799 | 8.060E-06     | 0.000010      |
| 1756  | 1.2D+1L+1E      | Combination | Max      | 37.888810  | 15.344631  | 0.355730  | 0.000769      | 0.001894      |
| 1756  | 1.2D+1L+1E      | Combination | Min      | -37.471320 | -15.420433 | -3.328187 | -0.000753     | -0.001875     |
| 1756  | 0.9D+1E         | Combination | Max      | 37.805847  | 15.349029  | 0.841751  | 0.000767      | 0.001890      |
| 1756  | 0.9D+1E         | Combination | Min      | -37.554284 | -15.416035 | -2.842166 | -0.000755     | -0.001879     |
| 1756  | 1.2D+1L+1E<br>y | Combination | Max      | 9.936238   | 23.563845  | 1.464882  | 0.001244      | 0.000496      |
| 1756  | 1.2D+1L+1E<br>y | Combination | Min      | -9.518748  | -23.639646 | -4.437339 | -0.001229     | -0.000478     |
| 1756  | 0.9D+1Ey        | Combination | Max      | 9.853274   | 23.568242  | 1.950903  | 0.001242      | 0.000493      |
| 1756  | 0.9D+1Ey        | Combination | Min      | -9.601711  | -23.635249 | -3.951318 | -0.001231     | -0.000481     |
| 1756  | 1D+0.5L         | Combination |          | 0.160276   | -0.033841  | -1.187651 | 6.429E-06     | 7.217E-06     |
| 1757  | 1.4D            | Combination |          | 0.235231   | -0.094679  | -1.589138 | 9.066E-06     | 0.000017      |
| 1757  | 1.2D+1.6L       | Combination |          | 0.284257   | -0.076987  | -1.608385 | 9.293E-06     | 0.000020      |
| 1757  | 1.2D+1L+1E      | Combination | Max      | 36.390404  | 15.315526  | 1.158282  | 0.000801      | 0.001901      |
| 1757  | 1.2D+1L+1E      | Combination | Min      | -35.883864 | -15.472626 | -4.190352 | -0.000783     | -0.001865     |
| 1757  | 0.9D+1E         | Combination | Max      | 36.288354  | 15.333211  | 1.652728  | 0.000798      | 0.001893      |
| 1757  | 0.9D+1E         | Combination | Min      | -35.985914 | -15.454941 | -3.695905 | -0.000786     | -0.001872     |
| 1757  | 1.2D+1L+1E<br>y | Combination | Max      | 9.558044   | 23.535255  | 1.132474  | 0.001293      | 0.000502      |
| 1757  | 1.2D+1L+1E<br>y | Combination | Min      | -9.051504  | -23.692355 | -4.164544 | -0.001275     | -0.000466     |
| 1757  | 0.9D+1Ey        | Combination | Max      | 9.455994   | 23.552940  | 1.626920  | 0.001290      | 0.000495      |
| 1757  | 0.9D+1Ey        | Combination | Min      | -9.153554  | -23.674670 | -3.670097 | -0.001278     | -0.000473     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1757  | 1D+0.5L    | Combination |          | 0.193844   | -0.066326  | -1.212057 | 6.952E-06     | 0.000014      |
| 1758  | 1.4D       | Combination |          | 0.347644   | -0.256323  | -1.713656 | 0.000026      | 0.000023      |
| 1758  | 1.2D+1.6L  | Combination |          | 0.454794   | -0.332454  | -1.758303 | 0.000037      | 0.000030      |
| 1758  | 1.2D+1L+1E | Combination | Max      | 32.381002  | 10.484716  | 3.315871  | 0.000621      | 0.001695      |
| 1758  | 1.2D+1L+1E | Combination | Min      | -31.589024 | -11.065063 | -6.615385 | -0.000557     | -0.001644     |
| 1758  | 0.9D+1E    | Combination | Max      | 32.208498  | 10.610110  | 3.863992  | 0.000606      | 0.001684      |
| 1758  | 0.9D+1E    | Combination | Min      | -31.761528 | -10.939668 | -6.067264 | -0.000573     | -0.001655     |
| 1758  | 1.2D+1L+1E | Combination | Max      | 8.645346   | 23.092697  | 0.771574  | 0.001263      | 0.000456      |
|       | y          |             |          |            |            |           |               |               |
| 1758  | 1.2D+1L+1E | Combination | Min      | -7.853368  | -23.673043 | -4.071088 | -0.001200     | -0.000404     |
|       | y          |             |          |            |            |           |               |               |
| 1758  | 0.9D+1Ey   | Combination | Max      | 8.472842   | 23.218091  | 1.319695  | 0.001248      | 0.000445      |
| 1758  | 0.9D+1Ey   | Combination | Min      | -8.025872  | -23.547649 | -3.522967 | -0.001215     | -0.000415     |
| 1758  | 1D+0.5L    | Combination |          | 0.297321   | -0.218322  | -1.314495 | 0.000023      | 0.000020      |
| 1759  | 1.4D       | Combination |          | 0.297928   | -0.251937  | -1.640477 | 0.000017      | 0.000015      |
| 1759  | 1.2D+1.6L  | Combination |          | 0.404071   | -0.338692  | -1.660629 | 0.000023      | 0.000021      |
| 1759  | 1.2D+1L+1E | Combination | Max      | 32.326133  | 11.979763  | 0.307164  | 0.000693      | 0.001683      |
| 1759  | 1.2D+1L+1E | Combination | Min      | -31.629519 | -12.565088 | -3.437543 | -0.000654     | -0.001647     |
| 1759  | 0.9D+1E    | Combination | Max      | 32.169351  | 12.110466  | 0.817761  | 0.000685      | 0.001675      |
| 1759  | 0.9D+1E    | Combination | Min      | -31.786301 | -12.434385 | -2.926946 | -0.000663     | -0.001655     |
| 1759  | 1.2D+1L+1E | Combination | Max      | 8.595034   | 23.173146  | 0.579380  | 0.001336      | 0.000446      |
|       | y          |             |          |            |            |           |               |               |
| 1759  | 1.2D+1L+1E | Combination | Min      | -7.898420  | -23.758471 | -3.709759 | -0.001296     | -0.000411     |
|       | y          |             |          |            |            |           |               |               |
| 1759  | 0.9D+1Ey   | Combination | Max      | 8.438252   | 23.303849  | 1.089977  | 0.001327      | 0.000438      |
| 1759  | 0.9D+1Ey   | Combination | Min      | -8.055202  | -23.627768 | -3.199162 | -0.001305     | -0.000419     |
| 1759  | 1D+0.5L    | Combination |          | 0.259276   | -0.218313  | -1.251303 | 0.000015      | 0.000013      |
| 1760  | 1.4D       | Combination |          | 0.362618   | -0.302654  | -1.723608 | 0.000022      | -0.000040     |
| 1760  | 1.2D+1.6L  | Combination |          | 0.482762   | -0.390484  | -1.772261 | 0.000029      | -0.000050     |
| 1760  | 1.2D+1L+1E | Combination | Max      | 32.216368  | 11.935438  | 1.086631  | 0.000691      | 0.001221      |
| 1760  | 1.2D+1L+1E | Combination | Min      | -31.379804 | -12.618107 | -4.409991 | -0.000641     | -0.001309     |
| 1760  | 0.9D+1E    | Combination | Max      | 32.031198  | 12.082209  | 1.640277  | 0.000680      | 0.001240      |
| 1760  | 0.9D+1E    | Combination | Min      | -31.564975 | -12.471336 | -3.856344 | -0.000652     | -0.001291     |
| 1760  | 1.2D+1L+1E | Combination | Max      | 8.660922   | 23.127496  | 2.191659  | 0.001322      | 0.000294      |
|       | y          |             |          |            |            |           |               |               |
| 1760  | 1.2D+1L+1E | Combination | Min      | -7.824357  | -23.810164 | -5.515019 | -0.001272     | -0.000383     |
|       | y          |             |          |            |            |           |               |               |
| 1760  | 0.9D+1Ey   | Combination | Max      | 8.475751   | 23.274267  | 2.745305  | 0.001311      | 0.000313      |
| 1760  | 0.9D+1Ey   | Combination | Min      | -8.009528  | -23.663393 | -4.961373 | -0.001283     | -0.000364     |
| 1760  | 1D+0.5L    | Combination |          | 0.312746   | -0.257140  | -1.323300 | 0.000019      | -0.000034     |
| 1761  | 1.4D       | Combination |          | 0.339454   | -0.155485  | -1.538116 | -0.000026     | 0.000021      |
| 1761  | 1.2D+1.6L  | Combination |          | 0.446344   | -0.196969  | -1.572270 | -0.000036     | 0.000027      |
| 1761  | 1.2D+1L+1E | Combination | Max      | 32.438928  | 8.001826   | 1.269878  | 0.000357      | 0.001666      |
| 1761  | 1.2D+1L+1E | Combination | Min      | -31.662777 | -8.347992  | -4.224004 | -0.000419     | -0.001619     |
| 1761  | 0.9D+1E    | Combination | Max      | 32.269073  | 8.074954   | 1.758152  | 0.000371      | 0.001656      |
| 1761  | 0.9D+1E    | Combination | Min      | -31.832633 | -8.274864  | -3.735730 | -0.000405     | -0.001629     |
| 1761  | 1.2D+1L+1E | Combination | Max      | 8.654131   | 23.032709  | 1.447271  | 0.001067      | 0.000447      |
|       | y          |             |          |            |            |           |               |               |
| 1761  | 1.2D+1L+1E | Combination | Min      | -7.877980  | -23.378875 | -4.401397 | -0.001129     | -0.000400     |
|       | y          |             |          |            |            |           |               |               |
| 1761  | 0.9D+1Ey   | Combination | Max      | 8.484276   | 23.105837  | 1.935545  | 0.001082      | 0.000437      |
| 1761  | 0.9D+1Ey   | Combination | Min      | -8.047836  | -23.305747 | -3.913123 | -0.001115     | -0.000410     |
| 1761  | 1D+0.5L    | Combination |          | 0.291024   | -0.130966  | -1.177993 | -0.000023     | 0.000018      |
| 1762  | 1.4D       | Combination |          | 0.316526   | -0.151306  | -1.496493 | 0.000012      | 0.000019      |
| 1762  | 1.2D+1.6L  | Combination |          | 0.422971   | -0.198538  | -1.516619 | 0.000016      | 0.000025      |
| 1762  | 1.2D+1L+1E | Combination | Max      | 32.415829  | 8.160572   | -0.013414 | 0.000476      | 0.001701      |



Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1762  | 1.2D+1L+1E      | Combination | Min      | -31.683635 | -8.506012  | -2.844392 | -0.000449     | -0.001657     |
| 1762  | 0.9D+1E         | Combination | Max      | 32.253213  | 8.236024   | 0.453458  | 0.000470      | 0.001691      |
| 1762  | 0.9D+1E         | Combination | Min      | -31.846251 | -8.430560  | -2.377521 | -0.000455     | -0.001667     |
| 1762  | 1.2D+1L+1E<br>y | Combination | Max      | 8.631304   | 23.052921  | 1.459415  | 0.001302      | 0.000454      |
| 1762  | 1.2D+1L+1E<br>y | Combination | Min      | -7.899110  | -23.398362 | -4.317221 | -0.001274     | -0.000410     |
| 1762  | 0.9D+1Ey        | Combination | Max      | 8.468688   | 23.128373  | 1.926286  | 0.001296      | 0.000444      |
| 1762  | 0.9D+1Ey        | Combination | Min      | -8.061726  | -23.322909 | -3.850349 | -0.001280     | -0.000420     |
| 1762  | 1D+0.5L         | Combination |          | 0.273485   | -0.129591  | -1.142021 | 0.000010      | 0.000016      |
| 1763  | 1.4D            | Combination |          | 0.357416   | -0.197841  | -1.548980 | 0.000012      | 0.000022      |
| 1763  | 1.2D+1.6L       | Combination |          | 0.477386   | -0.246102  | -1.584775 | 0.000015      | 0.000028      |
| 1763  | 1.2D+1L+1E      | Combination | Max      | 32.215302  | 8.116597   | -0.026479 | 0.000475      | 0.001671      |
| 1763  | 1.2D+1L+1E      | Combination | Min      | -31.388802 | -8.551408  | -2.950263 | -0.000448     | -0.001622     |
| 1763  | 0.9D+1E         | Combination | Max      | 32.031820  | 8.206819   | 0.466119  | 0.000469      | 0.001660      |
| 1763  | 0.9D+1E         | Combination | Min      | -31.572284 | -8.461187  | -2.457665 | -0.000454     | -0.001633     |
| 1763  | 1.2D+1L+1E<br>y | Combination | Max      | 8.657193   | 23.009788  | 1.417665  | 0.001298      | 0.000450      |
| 1763  | 1.2D+1L+1E<br>y | Combination | Min      | -7.830693  | -23.444599 | -4.394407 | -0.001272     | -0.000401     |
| 1763  | 0.9D+1Ey        | Combination | Max      | 8.473710   | 23.100010  | 1.910263  | 0.001292      | 0.000440      |
| 1763  | 0.9D+1Ey        | Combination | Min      | -8.014175  | -23.354378 | -3.901809 | -0.001277     | -0.000412     |
| 1763  | 1D+0.5L         | Combination |          | 0.308744   | -0.165229  | -1.186751 | 9.863E-06     | 0.000019      |
| 1764  | 1.4D            | Combination |          | 0.378756   | -0.159472  | -1.593977 | 0.000015      | 0.000022      |
| 1764  | 1.2D+1.6L       | Combination |          | 0.499391   | -0.200959  | -1.645514 | 0.000018      | 0.000030      |
| 1764  | 1.2D+1L+1E      | Combination | Max      | 32.234752  | 7.999076   | 1.114023  | 0.000454      | 0.001645      |
| 1764  | 1.2D+1L+1E      | Combination | Min      | -31.367028 | -8.352793  | -4.195615 | -0.000422     | -0.001594     |
| 1764  | 0.9D+1E         | Combination | Max      | 32.044376  | 8.073417   | 1.630119  | 0.000447      | 0.001633      |
| 1764  | 0.9D+1E         | Combination | Min      | -31.557404 | -8.278452  | -3.679518 | -0.000428     | -0.001605     |
| 1764  | 1.2D+1L+1E<br>y | Combination | Max      | 8.676599   | 23.031974  | 1.406754  | 0.001253      | 0.000444      |
| 1764  | 1.2D+1L+1E<br>y | Combination | Min      | -7.808875  | -23.385691 | -4.488346 | -0.001221     | -0.000393     |
| 1764  | 0.9D+1Ey        | Combination | Max      | 8.486223   | 23.106315  | 1.922851  | 0.001246      | 0.000433      |
| 1764  | 0.9D+1Ey        | Combination | Min      | -7.999251  | -23.311350 | -3.972250 | -0.001228     | -0.000405     |
| 1764  | 1D+0.5L         | Combination |          | 0.325147   | -0.133992  | -1.225820 | 0.000012      | 0.000019      |
| 1765  | 1.4D            | Combination |          | 0.334835   | -0.014279  | -1.325818 | 0.000020      | 0.000015      |
| 1765  | 1.2D+1.6L       | Combination |          | 0.442718   | 0.001426   | -1.242648 | 0.000028      | 0.000021      |
| 1765  | 1.2D+1L+1E      | Combination | Max      | 32.316860  | 12.897078  | 3.645350  | 0.000704      | 0.001686      |
| 1765  | 1.2D+1L+1E      | Combination | Min      | -31.548211 | -12.904474 | -6.050971 | -0.000656     | -0.001650     |
| 1765  | 0.9D+1E         | Combination | Max      | 32.147786  | 12.891597  | 3.995849  | 0.000692      | 0.001677      |
| 1765  | 0.9D+1E         | Combination | Min      | -31.717284 | -12.909955 | -5.700472 | -0.000667     | -0.001658     |
| 1765  | 1.2D+1L+1E<br>y | Combination | Max      | 8.620612   | 23.106819  | 1.001527  | 0.001226      | 0.000447      |
| 1765  | 1.2D+1L+1E<br>y | Combination | Min      | -7.851963  | -23.114215 | -3.407149 | -0.001178     | -0.000412     |
| 1765  | 0.9D+1Ey        | Combination | Max      | 8.451539   | 23.101338  | 1.352026  | 0.001214      | 0.000439      |
| 1765  | 0.9D+1Ey        | Combination | Min      | -8.021037  | -23.119696 | -3.056650 | -0.001189     | -0.000420     |
| 1765  | 1D+0.5L         | Combination |          | 0.287829   | -0.005929  | -0.980211 | 0.000018      | 0.000013      |
| 1766  | 1.4D            | Combination |          | 0.375959   | 0.020849   | -1.397570 | 1.920E-06     | 0.000022      |
| 1766  | 1.2D+1.6L       | Combination |          | 0.481765   | 0.047371   | -1.338558 | 3.933E-07     | 0.000029      |
| 1766  | 1.2D+1L+1E      | Combination | Max      | 32.347041  | 14.577572  | 0.725341  | 0.000788      | 0.001695      |
| 1766  | 1.2D+1L+1E      | Combination | Min      | -31.503147 | -14.504955 | -3.296977 | -0.000787     | -0.001645     |
| 1766  | 0.9D+1E         | Combination | Max      | 32.166782  | 14.554667  | 1.112721  | 0.000789      | 0.001685      |
| 1766  | 0.9D+1E         | Combination | Min      | -31.683406 | -14.527860 | -2.909597 | -0.000786     | -0.001656     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1766  | 1.2D+1L+1E<br>y | Combination | Max      | 8.657218   | 23.095105  | 0.630679  | 0.001297      | 0.000455      |
| 1766  | 1.2D+1L+1E<br>y | Combination | Min      | -7.813325  | -23.022488 | -3.202315 | -0.001295     | -0.000405     |
| 1766  | 0.9D+1Ey        | Combination | Max      | 8.476959   | 23.072200  | 1.018059  | 0.001297      | 0.000444      |
| 1766  | 0.9D+1Ey        | Combination | Min      | -7.993584  | -23.045394 | -2.814935 | -0.001295     | -0.000416     |
| 1766  | 1D+0.5L         | Combination |          | 0.318390   | 0.024111   | -1.042215 | 9.799E-07     | 0.000019      |
| 1767  | 1.4D            | Combination |          | 0.356682   | -0.028224  | -1.415171 | 2.161E-06     | 6.792E-06     |
| 1767  | 1.2D+1.6L       | Combination |          | 0.477874   | 0.000190   | -1.352576 | 1.167E-06     | 7.883E-06     |
| 1767  | 1.2D+1L+1E      | Combination | Max      | 32.234262  | 14.539914  | 1.947661  | 0.000790      | 0.001535      |
| 1767  | 1.2D+1L+1E      | Combination | Min      | -31.407625 | -14.557821 | -4.548134 | -0.000787     | -0.001520     |
| 1767  | 0.9D+1E         | Combination | Max      | 32.050239  | 14.530724  | 2.338145  | 0.000790      | 0.001532      |
| 1767  | 0.9D+1E         | Combination | Min      | -31.591648 | -14.567012 | -4.157650 | -0.000787     | -0.001523     |
| 1767  | 1.2D+1L+1E<br>y | Combination | Max      | 8.661796   | 23.060368  | 2.707480  | 0.001294      | 0.000418      |
| 1767  | 1.2D+1L+1E<br>y | Combination | Min      | -7.835159  | -23.078275 | -5.307953 | -0.001291     | -0.000404     |
| 1767  | 0.9D+1Ey        | Combination | Max      | 8.477773   | 23.051178  | 3.097963  | 0.001294      | 0.000415      |
| 1767  | 0.9D+1Ey        | Combination | Min      | -8.019182  | -23.087466 | -4.917469 | -0.001292     | -0.000407     |
| 1767  | 1D+0.5L         | Combination |          | 0.308569   | -0.012541  | -1.054453 | 1.329E-06     | 5.496E-06     |
| 1768  | 1.4D            | Combination |          | 0.226598   | -0.250670  | -1.394242 | 0.000019      | 0.000029      |
| 1768  | 1.2D+1.6L       | Combination |          | 0.272913   | -0.365530  | -1.320896 | 0.000025      | 0.000039      |
| 1768  | 1.2D+1L+1E      | Combination | Max      | 43.972224  | 16.469540  | 0.906385  | 0.000787      | 0.002000      |
| 1768  | 1.2D+1L+1E      | Combination | Min      | -43.485412 | -17.087598 | -3.453803 | -0.000743     | -0.001933     |
| 1768  | 0.9D+1E         | Combination | Max      | 43.874489  | 16.617423  | 1.283796  | 0.000777      | 0.001985      |
| 1768  | 0.9D+1E         | Combination | Min      | -43.583148 | -16.939714 | -3.076392 | -0.000753     | -0.001948     |
| 1768  | 1.2D+1L+1E<br>y | Combination | Max      | 11.526312  | 27.048828  | 2.195285  | 0.001344      | 0.000540      |
| 1768  | 1.2D+1L+1E<br>y | Combination | Min      | -11.039500 | -27.666885 | -4.742703 | -0.001300     | -0.000473     |
| 1768  | 0.9D+1Ey        | Combination | Max      | 11.428577  | 27.196711  | 2.572696  | 0.001334      | 0.000525      |
| 1768  | 0.9D+1Ey        | Combination | Min      | -11.137236 | -27.519002 | -4.365292 | -0.001310     | -0.000487     |
| 1768  | 1D+0.5L         | Combination |          | 0.186445   | -0.226135  | -1.035209 | 0.000016      | 0.000025      |
| 1769  | 1.4D            | Combination |          | 0.222900   | -0.291197  | -1.473728 | 0.000019      | 0.000018      |
| 1769  | 1.2D+1.6L       | Combination |          | 0.283743   | -0.404461  | -1.428004 | 0.000026      | 0.000021      |
| 1769  | 1.2D+1L+1E      | Combination | Max      | 42.229650  | 16.442016  | 1.502428  | 0.000808      | 0.001948      |
| 1769  | 1.2D+1L+1E      | Combination | Min      | -41.731678 | -17.134790 | -4.234830 | -0.000763     | -0.001910     |
| 1769  | 0.9D+1E         | Combination | Max      | 42.123957  | 16.601205  | 1.921232  | 0.000798      | 0.001940      |
| 1769  | 0.9D+1E         | Combination | Min      | -41.837371 | -16.975601 | -3.816026 | -0.000773     | -0.001917     |
| 1769  | 1.2D+1L+1E<br>y | Combination | Max      | 11.055774  | 27.017071  | 1.124032  | 0.001380      | 0.000515      |
| 1769  | 1.2D+1L+1E<br>y | Combination | Min      | -10.557802 | -27.709845 | -3.856433 | -0.001335     | -0.000477     |
| 1769  | 0.9D+1Ey        | Combination | Max      | 10.950081  | 27.176260  | 1.542836  | 0.001370      | 0.000507      |
| 1769  | 0.9D+1Ey        | Combination | Min      | -10.663495 | -27.550656 | -3.437629 | -0.001345     | -0.000484     |
| 1769  | 1D+0.5L         | Combination |          | 0.188179   | -0.256393  | -1.104166 | 0.000017      | 0.000015      |
| 1770  | 1.4D            | Combination |          | 0.262836   | -0.246734  | -1.535480 | -2.223E-06    | 0.000014      |
| 1770  | 1.2D+1.6L       | Combination |          | 0.322755   | -0.348588  | -1.504378 | -5.167E-06    | 0.000018      |
| 1770  | 1.2D+1L+1E      | Combination | Max      | 42.262469  | 14.409294  | 3.491803  | 0.000674      | 0.001918      |
| 1770  | 1.2D+1L+1E      | Combination | Min      | -41.690060 | -15.003644 | -6.359371 | -0.000682     | -0.001886     |
| 1770  | 0.9D+1E         | Combination | Max      | 42.145231  | 14.547854  | 3.938493  | 0.000677      | 0.001911      |
| 1770  | 0.9D+1E         | Combination | Min      | -41.807299 | -14.865084 | -5.912682 | -0.000680     | -0.001892     |
| 1770  | 1.2D+1L+1E<br>y | Combination | Max      | 11.092669  | 27.016949  | 1.175100  | 0.001350      | 0.000505      |
| 1770  | 1.2D+1L+1E<br>y | Combination | Min      | -10.520260 | -27.611300 | -4.042668 | -0.001358     | -0.000473     |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1770  | 0.9D+1Ey   | Combination | Max      | 10.975430  | 27.155510  | 1.621789  | 0.001353      | 0.000499      |
| 1770  | 0.9D+1Ey   | Combination | Min      | -10.637499 | -27.472739 | -3.595979 | -0.001355     | -0.000480     |
| 1770  | 1D+0.5L    | Combination |          | 0.218198   | -0.219083  | -1.155601 | -2.607E-06    | 0.000012      |
| 1771  | 1.4D       | Combination |          | 0.219807   | -0.174891  | -1.728251 | 0.000014      | 0.000013      |
| 1771  | 1.2D+1.6L  | Combination |          | 0.265910   | -0.232857  | -1.741786 | 0.000018      | 0.000016      |
| 1771  | 1.2D+1L+1E | Combination | Max      | 43.971116  | 9.589875   | -0.068781 | 0.000496      | 0.002011      |
| 1771  | 1.2D+1L+1E | Combination | Min      | -43.497425 | -9.993376  | -3.219469 | -0.000464     | -0.001982     |
| 1771  | 0.9D+1E    | Combination | Max      | 43.875575  | 9.679195   | 0.464326  | 0.000489      | 0.002005      |
| 1771  | 0.9D+1E    | Combination | Min      | -43.592966 | -9.904055  | -2.686363 | -0.000470     | -0.001988     |
| 1771  | 1.2D+1L+1E | Combination | Max      | 11.520881  | 27.044328  | 1.271383  | 0.001350      | 0.000529      |
|       | y          |             |          |            |            |           |               |               |
| 1771  | 1.2D+1L+1E | Combination | Min      | -11.047189 | -27.447829 | -4.559633 | -0.001318     | -0.000500     |
|       | y          |             |          |            |            |           |               |               |
| 1771  | 0.9D+1Ey   | Combination | Max      | 11.425339  | 27.133648  | 1.804490  | 0.001343      | 0.000523      |
| 1771  | 0.9D+1Ey   | Combination | Min      | -11.142731 | -27.358508 | -4.026527 | -0.001324     | -0.000506     |
| 1771  | 1D+0.5L    | Combination |          | 0.181225   | -0.150844  | -1.315848 | 0.000012      | 0.000011      |
| 1772  | 1.4D       | Combination |          | 0.241492   | -0.183574  | -1.759173 | -2.391E-06    | 0.000015      |
| 1772  | 1.2D+1.6L  | Combination |          | 0.287805   | -0.234958  | -1.779220 | -0.000010     | 0.000018      |
| 1772  | 1.2D+1L+1E | Combination | Max      | 43.988648  | 9.395161   | 1.505069  | 0.000390      | 0.001994      |
| 1772  | 1.2D+1L+1E | Combination | Min      | -43.473647 | -9.806870  | -4.859991 | -0.000405     | -0.001961     |
| 1772  | 0.9D+1E    | Combination | Max      | 43.886392  | 9.483004   | 2.051633  | 0.000396      | 0.001987      |
| 1772  | 0.9D+1E    | Combination | Min      | -43.575902 | -9.719027  | -4.313427 | -0.000399     | -0.001968     |
| 1772  | 1.2D+1L+1E | Combination | Max      | 11.539861  | 27.043415  | 1.340957  | 0.001101      | 0.000525      |
|       | y          |             |          |            |            |           |               |               |
| 1772  | 1.2D+1L+1E | Combination | Min      | -11.024860 | -27.455124 | -4.695880 | -0.001115     | -0.000493     |
|       | y          |             |          |            |            |           |               |               |
| 1772  | 0.9D+1Ey   | Combination | Max      | 11.437605  | 27.131257  | 1.887521  | 0.001106      | 0.000519      |
| 1772  | 0.9D+1Ey   | Combination | Min      | -11.127116 | -27.367281 | -4.149316 | -0.001109     | -0.000499     |
| 1772  | 1D+0.5L    | Combination |          | 0.197748   | -0.155377  | -1.341352 | -4.251E-06    | 0.000012      |
| 1773  | 1.4D       | Combination |          | 0.238703   | -0.218214  | -1.789898 | 0.000013      | 0.000016      |
| 1773  | 1.2D+1.6L  | Combination |          | 0.298590   | -0.276789  | -1.819472 | 0.000017      | 0.000019      |
| 1773  | 1.2D+1L+1E | Combination | Max      | 42.309524  | 9.549535   | 0.029625  | 0.000495      | 0.001937      |
| 1773  | 1.2D+1L+1E | Combination | Min      | -41.782835 | -10.035802 | -3.454614 | -0.000466     | -0.001903     |
| 1773  | 0.9D+1E    | Combination | Max      | 42.199631  | 9.652388   | 0.591471  | 0.000489      | 0.001930      |
| 1773  | 0.9D+1E    | Combination | Min      | -41.892728 | -9.932949  | -2.892769 | -0.000472     | -0.001910     |
| 1773  | 1.2D+1L+1E | Combination | Max      | 11.084660  | 27.003893  | 1.143437  | 0.001352      | 0.000510      |
|       | y          |             |          |            |            |           |               |               |
| 1773  | 1.2D+1L+1E | Combination | Min      | -10.557971 | -27.490161 | -4.568426 | -0.001323     | -0.000476     |
|       | y          |             |          |            |            |           |               |               |
| 1773  | 0.9D+1Ey   | Combination | Max      | 10.974767  | 27.106746  | 1.705283  | 0.001346      | 0.000503      |
| 1773  | 0.9D+1Ey   | Combination | Min      | -10.667864 | -27.387308 | -4.006580 | -0.001329     | -0.000483     |
| 1773  | 1D+0.5L    | Combination |          | 0.199873   | -0.183914  | -1.367647 | 0.000011      | 0.000013      |
| 1774  | 1.4D       | Combination |          | 0.260284   | -0.187906  | -1.825498 | 0.000011      | 0.000017      |
| 1774  | 1.2D+1.6L  | Combination |          | 0.320627   | -0.239346  | -1.863213 | 0.000024      | 0.000022      |
| 1774  | 1.2D+1L+1E | Combination | Max      | 42.327598  | 9.390851   | 1.046142  | 0.000422      | 0.001891      |
| 1774  | 1.2D+1L+1E | Combination | Min      | -41.759489 | -9.810830  | -4.548693 | -0.000386     | -0.001853     |
| 1774  | 0.9D+1E    | Combination | Max      | 42.210868  | 9.480044   | 1.623883  | 0.000411      | 0.001883      |
| 1774  | 0.9D+1E    | Combination | Min      | -41.876218 | -9.721637  | -3.970952 | -0.000397     | -0.001861     |
| 1774  | 1.2D+1L+1E | Combination | Max      | 11.105196  | 27.038798  | 1.108504  | 0.001162      | 0.000501      |
|       | y          |             |          |            |            |           |               |               |
| 1774  | 1.2D+1L+1E | Combination | Min      | -10.537087 | -27.458777 | -4.611055 | -0.001126     | -0.000463     |
|       | y          |             |          |            |            |           |               |               |
| 1774  | 0.9D+1Ey   | Combination | Max      | 10.988467  | 27.127991  | 1.686245  | 0.001151      | 0.000493      |
| 1774  | 0.9D+1Ey   | Combination | Min      | -10.653816 | -27.369585 | -4.033314 | -0.001137     | -0.000471     |
| 1774  | 1D+0.5L    | Combination |          | 0.216394   | -0.158682  | -1.397209 | 0.000012      | 0.000015      |
| 1775  | 1.4D       | Combination |          | 0.237235   | -0.077851  | -1.691470 | 0.000010      | 9.746E-06     |

Table: Joint Displacements, Part 1 of 2

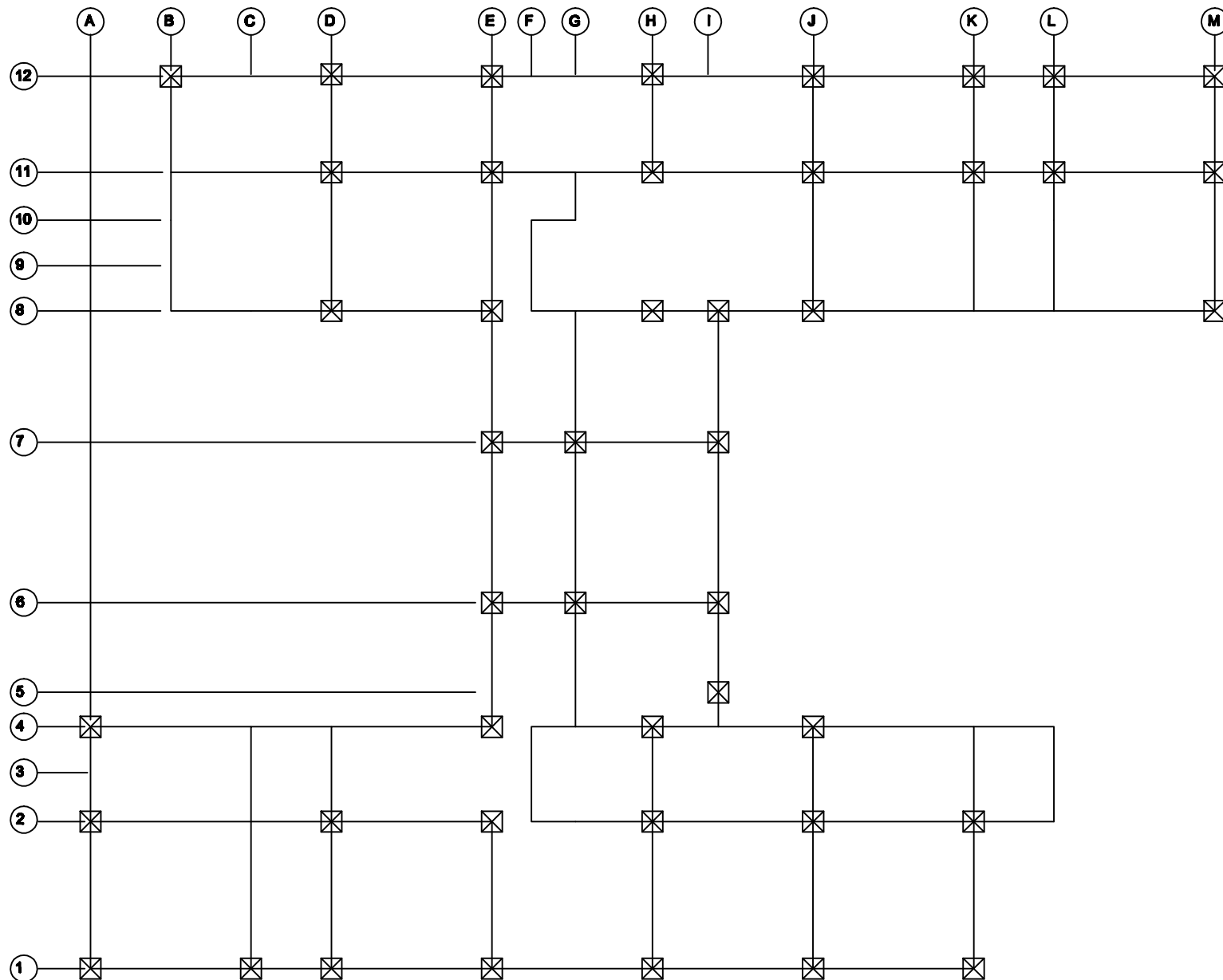
| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1775  | 1.2D+1.6L       | Combination |          | 0.283504   | -0.058589  | -1.714863 | 9.818E-06     | 0.000011      |
| 1775  | 1.2D+1L+1E      | Combination | Max      | 43.984887  | 17.743774  | 0.251907  | 0.000784      | 0.001924      |
| 1775  | 1.2D+1L+1E      | Combination | Min      | -43.477999 | -17.867058 | -3.482859 | -0.000765     | -0.001904     |
| 1775  | 0.9D+1E         | Combination | Max      | 43.883951  | 17.755369  | 0.780009  | 0.000781      | 0.001920      |
| 1775  | 0.9D+1E         | Combination | Min      | -43.578935 | -17.855463 | -2.954757 | -0.000768     | -0.001908     |
| 1775  | 1.2D+1L+1E<br>y | Combination | Max      | 11.536012  | 27.573422  | 1.373169  | 0.001286      | 0.000504      |
| 1775  | 1.2D+1L+1E<br>y | Combination | Min      | -11.029123 | -27.696705 | -4.604122 | -0.001267     | -0.000485     |
| 1775  | 0.9D+1Ey        | Combination | Max      | 11.435076  | 27.585016  | 1.901272  | 0.001283      | 0.000501      |
| 1775  | 0.9D+1Ey        | Combination | Min      | -11.130059 | -27.685111 | -4.076019 | -0.001270     | -0.000488     |
| 1775  | 1D+0.5L         | Combination |          | 0.194503   | -0.053064  | -1.291015 | 7.694E-06     | 7.742E-06     |
| 1776  | 1.4D            | Combination |          | 0.277786   | -0.118315  | -1.731513 | 0.000011      | 0.000013      |
| 1776  | 1.2D+1.6L       | Combination |          | 0.337398   | -0.099615  | -1.753071 | 0.000011      | 0.000017      |
| 1776  | 1.2D+1L+1E      | Combination | Max      | 42.283624  | 17.715148  | 1.098900  | 0.000816      | 0.001937      |
| 1776  | 1.2D+1L+1E      | Combination | Min      | -41.683300 | -17.915726 | -4.403353 | -0.000795     | -0.001907     |
| 1776  | 0.9D+1E         | Combination | Max      | 42.162039  | 17.739377  | 1.638011  | 0.000812      | 0.001930      |
| 1776  | 0.9D+1E         | Combination | Min      | -41.804886 | -17.891496 | -3.864242 | -0.000799     | -0.001914     |
| 1776  | 1.2D+1L+1E<br>y | Combination | Max      | 11.105361  | 27.547906  | 1.140119  | 0.001336      | 0.000509      |
| 1776  | 1.2D+1L+1E<br>y | Combination | Min      | -10.505037 | -27.748484 | -4.444573 | -0.001315     | -0.000479     |
| 1776  | 0.9D+1Ey        | Combination | Max      | 10.983775  | 27.572136  | 1.679231  | 0.001332      | 0.000502      |
| 1776  | 0.9D+1Ey        | Combination | Min      | -10.626622 | -27.724255 | -3.905462 | -0.001319     | -0.000486     |
| 1776  | 1D+0.5L         | Combination |          | 0.229448   | -0.083949  | -1.320831 | 8.185E-06     | 0.000011      |
| 1777  | 1.4D            | Combination |          | 0.406869   | -0.304429  | -1.862880 | 0.000027      | 0.000019      |
| 1777  | 1.2D+1.6L       | Combination |          | 0.534560   | -0.396584  | -1.911251 | 0.000039      | 0.000026      |
| 1777  | 1.2D+1L+1E      | Combination | Max      | 37.628855  | 12.289110  | 3.267119  | 0.000640      | 0.001715      |
| 1777  | 1.2D+1L+1E      | Combination | Min      | -36.699096 | -12.980545 | -6.853748 | -0.000574     | -0.001670     |
| 1777  | 0.9D+1E         | Combination | Max      | 37.425534  | 12.439123  | 3.862868  | 0.000625      | 0.001705      |
| 1777  | 0.9D+1E         | Combination | Min      | -36.902417 | -12.830532 | -6.257999 | -0.000590     | -0.001680     |
| 1777  | 1.2D+1L+1E<br>y | Combination | Max      | 10.045956  | 27.132240  | 0.733403  | 0.001308      | 0.000458      |
| 1777  | 1.2D+1L+1E<br>y | Combination | Min      | -9.116197  | -27.823675 | -4.320031 | -0.001242     | -0.000413     |
| 1777  | 0.9D+1Ey        | Combination | Max      | 9.842635   | 27.282253  | 1.329152  | 0.001293      | 0.000448      |
| 1777  | 0.9D+1Ey        | Combination | Min      | -9.319518  | -27.673662 | -3.724283 | -0.001258     | -0.000423     |
| 1777  | 1D+0.5L         | Combination |          | 0.348688   | -0.259838  | -1.428908 | 0.000024      | 0.000017      |
| 1778  | 1.4D            | Combination |          | 0.359296   | -0.305596  | -1.787183 | 0.000018      | 0.000020      |
| 1778  | 1.2D+1.6L       | Combination |          | 0.486014   | -0.410444  | -1.809611 | 0.000024      | 0.000027      |
| 1778  | 1.2D+1L+1E      | Combination | Max      | 37.582105  | 14.023691  | 0.222494  | 0.000714      | 0.001725      |
| 1778  | 1.2D+1L+1E      | Combination | Min      | -36.743611 | -14.733200 | -3.633411 | -0.000673     | -0.001679     |
| 1778  | 0.9D+1E         | Combination | Max      | 37.393834  | 14.181991  | 0.779050  | 0.000705      | 0.001715      |
| 1778  | 0.9D+1E         | Combination | Min      | -36.931882 | -14.574900 | -3.076856 | -0.000682     | -0.001689     |
| 1778  | 1.2D+1L+1E<br>y | Combination | Max      | 9.999260   | 27.226992  | 0.547950  | 0.001384      | 0.000461      |
| 1778  | 1.2D+1L+1E<br>y | Combination | Min      | -9.160766  | -27.936501 | -3.958867 | -0.001342     | -0.000415     |
| 1778  | 0.9D+1Ey        | Combination | Max      | 9.810989   | 27.385291  | 1.104506  | 0.001374      | 0.000451      |
| 1778  | 0.9D+1Ey        | Combination | Min      | -9.349037  | -27.778201 | -3.402312 | -0.001351     | -0.000425     |
| 1778  | 1D+0.5L         | Combination |          | 0.312279   | -0.264690  | -1.363353 | 0.000015      | 0.000017      |
| 1779  | 1.4D            | Combination |          | 0.427330   | -0.353792  | -1.874401 | 0.000022      | -0.000039     |
| 1779  | 1.2D+1.6L       | Combination |          | 0.570421   | -0.459672  | -1.927115 | 0.000030      | -0.000049     |
| 1779  | 1.2D+1L+1E      | Combination | Max      | 37.397802  | 13.979033  | 1.023294  | 0.000711      | 0.001247      |
| 1779  | 1.2D+1L+1E      | Combination | Min      | -36.410064 | -14.781061 | -4.637159 | -0.000659     | -0.001333     |
| 1779  | 0.9D+1E         | Combination | Max      | 37.178645  | 14.152609  | 1.625254  | 0.000700      | 0.001265      |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1779  | 0.9D+1E    | Combination | Min      | -36.629221 | -14.607485 | -4.035199 | -0.000671     | -0.001315     |
| 1779  | 1.2D+1L+1E | Combination | Max      | 10.053127  | 27.180051  | 2.160918  | 0.001369      | 0.000301      |
|       | y          |             |          |            |            |           |               |               |
| 1779  | 1.2D+1L+1E | Combination | Min      | -9.065389  | -27.982079 | -5.774783 | -0.001317     | -0.000388     |
|       | y          |             |          |            |            |           |               |               |
| 1779  | 0.9D+1Ey   | Combination | Max      | 9.833970   | 27.353627  | 2.762878  | 0.001357      | 0.000320      |
| 1779  | 0.9D+1Ey   | Combination | Min      | -9.284546  | -27.808503 | -5.172823 | -0.001328     | -0.000370     |
| 1779  | 1D+0.5L    | Combination |          | 0.369029   | -0.301591  | -1.439010 | 0.000019      | -0.000033     |
| 1780  | 1.4D       | Combination |          | 0.397731   | -0.190882  | -1.672349 | -0.000025     | 0.000021      |
| 1780  | 1.2D+1.6L  | Combination |          | 0.525003   | -0.242022  | -1.709476 | -0.000034     | 0.000029      |
| 1780  | 1.2D+1L+1E | Combination | Max      | 37.679162  | 9.389939   | 1.188173  | 0.000372      | 0.001695      |
| 1780  | 1.2D+1L+1E | Combination | Min      | -36.767225 | -9.815176  | -4.400100 | -0.000431     | -0.001646     |
| 1780  | 0.9D+1E    | Combination | Max      | 37.478878  | 9.479848   | 1.719055  | 0.000385      | 0.001684      |
| 1780  | 0.9D+1E    | Combination | Min      | -36.967510 | -9.725267  | -3.869218 | -0.000417     | -0.001657     |
| 1780  | 1.2D+1L+1E | Combination | Max      | 10.052068  | 27.043515  | 1.425721  | 0.001107      | 0.000455      |
|       | y          |             |          |            |            |           |               |               |
| 1780  | 1.2D+1L+1E | Combination | Min      | -9.140130  | -27.468753 | -4.637648 | -0.001166     | -0.000406     |
|       | y          |             |          |            |            |           |               |               |
| 1780  | 0.9D+1Ey   | Combination | Max      | 9.851783   | 27.133424  | 1.956603  | 0.001120      | 0.000444      |
| 1780  | 0.9D+1Ey   | Combination | Min      | -9.340415  | -27.378844 | -4.106766 | -0.001152     | -0.000417     |
| 1780  | 1D+0.5L    | Combination |          | 0.341622   | -0.160847  | -1.280796 | -0.000022     | 0.000018      |
| 1781  | 1.4D       | Combination |          | 0.376046   | -0.190685  | -1.629250 | 0.000014      | 0.000019      |
| 1781  | 1.2D+1.6L  | Combination |          | 0.502898   | -0.248803  | -1.651562 | 0.000018      | 0.000026      |
| 1781  | 1.2D+1L+1E | Combination | Max      | 37.659050  | 9.573700   | -0.093476 | 0.000495      | 0.001731      |
| 1781  | 1.2D+1L+1E | Combination | Min      | -36.788684 | -10.007287 | -3.018352 | -0.000464     | -0.001685     |
| 1781  | 0.9D+1E    | Combination | Max      | 37.465610  | 9.667910   | 0.415063  | 0.000488      | 0.001721      |
| 1781  | 0.9D+1E    | Combination | Min      | -36.982123 | -9.913077  | -2.509813 | -0.000470     | -0.001696     |
| 1781  | 1.2D+1L+1E | Combination | Max      | 10.030917  | 27.064373  | 1.440892  | 0.001350      | 0.000462      |
|       | y          |             |          |            |            |           |               |               |
| 1781  | 1.2D+1L+1E | Combination | Min      | -9.160550  | -27.497960 | -4.552720 | -0.001318     | -0.000417     |
|       | y          |             |          |            |            |           |               |               |
| 1781  | 0.9D+1Ey   | Combination | Max      | 9.837477   | 27.158584  | 1.949431  | 0.001343      | 0.000452      |
| 1781  | 0.9D+1Ey   | Combination | Min      | -9.353990  | -27.403750 | -4.044181 | -0.001325     | -0.000427     |
| 1781  | 1D+0.5L    | Combination |          | 0.325033   | -0.162878  | -1.243457 | 0.000012      | 0.000017      |
| 1782  | 1.4D       | Combination |          | 0.422119   | -0.235112  | -1.689485 | 0.000013      | 0.000021      |
| 1782  | 1.2D+1.6L  | Combination |          | 0.565024   | -0.294252  | -1.729281 | 0.000017      | 0.000029      |
| 1782  | 1.2D+1L+1E | Combination | Max      | 37.394305  | 9.531716   | -0.109550 | 0.000493      | 0.001699      |
| 1782  | 1.2D+1L+1E | Combination | Min      | -36.416663 | -10.050674 | -3.138148 | -0.000463     | -0.001649     |
| 1782  | 0.9D+1E    | Combination | Max      | 37.176846  | 9.640052   | 0.428202  | 0.000487      | 0.001688      |
| 1782  | 0.9D+1E    | Combination | Min      | -36.634122 | -9.942338  | -2.600397 | -0.000469     | -0.001660     |
| 1782  | 1.2D+1L+1E | Combination | Max      | 10.048775  | 27.023448  | 1.395606  | 0.001346      | 0.000457      |
|       | y          |             |          |            |            |           |               |               |
| 1782  | 1.2D+1L+1E | Combination | Min      | -9.071134  | -27.542406 | -4.643304 | -0.001316     | -0.000408     |
|       | y          |             |          |            |            |           |               |               |
| 1782  | 0.9D+1Ey   | Combination | Max      | 9.831317   | 27.131784  | 1.933357  | 0.001339      | 0.000446      |
| 1782  | 0.9D+1Ey   | Combination | Min      | -9.288593  | -27.434070 | -4.105552 | -0.001322     | -0.000419     |
| 1782  | 1D+0.5L    | Combination |          | 0.365016   | -0.196914  | -1.294635 | 0.000011      | 0.000018      |
| 1783  | 1.4D       | Combination |          | 0.442360   | -0.194576  | -1.735211 | 0.000017      | 0.000023      |
| 1783  | 1.2D+1.6L  | Combination |          | 0.585884   | -0.245725  | -1.791530 | 0.000021      | 0.000031      |
| 1783  | 1.2D+1L+1E | Combination | Max      | 37.411142  | 9.387170   | 1.017116  | 0.000472      | 0.001673      |
| 1783  | 1.2D+1L+1E | Combination | Min      | -36.394413 | -9.819411  | -4.372022 | -0.000435     | -0.001620     |
| 1783  | 0.9D+1E    | Combination | Max      | 37.187152  | 9.478206   | 1.579076  | 0.000464      | 0.001661      |
| 1783  | 0.9D+1E    | Combination | Min      | -36.618403 | -9.728375  | -3.810062 | -0.000442     | -0.001632     |
| 1783  | 1.2D+1L+1E | Combination | Max      | 10.066738  | 27.042438  | 1.387203  | 0.001299      | 0.000452      |
|       | y          |             |          |            |            |           |               |               |

Table: Joint Displacements, Part 1 of 2

| Joint | OutputCase      | CaseType    | StepType | U1<br>mm   | U2<br>mm   | U3<br>mm  | R1<br>Radians | R2<br>Radians |
|-------|-----------------|-------------|----------|------------|------------|-----------|---------------|---------------|
| 1783  | 1.2D+1L+1E<br>y | Combination | Min      | -9.050009  | -27.474679 | -4.742109 | -0.001262     | -0.000399     |
| 1783  | 0.9D+1Ey        | Combination | Max      | 9.842748   | 27.133474  | 1.949163  | 0.001291      | 0.000440      |
| 1783  | 0.9D+1Ey        | Combination | Min      | -9.273999  | -27.383643 | -4.180149 | -0.001270     | -0.000411     |
| 1783  | 1D+0.5L         | Combination |          | 0.380571   | -0.163653  | -1.334501 | 0.000014      | 0.000020      |
| 1784  | 1.4D            | Combination |          | 0.398586   | -0.025387  | -1.446475 | 6.578E-06     | 0.000020      |
| 1784  | 1.2D+1.6L       | Combination |          | 0.527444   | -0.008820  | -1.356610 | 0.000014      | 0.000027      |
| 1784  | 1.2D+1L+1E      | Combination | Max      | 37.566214  | 15.049481  | 3.615839  | 0.000708      | 0.001714      |
| 1784  | 1.2D+1L+1E      | Combination | Min      | -36.650675 | -15.076827 | -6.241478 | -0.000687     | -0.001668     |
| 1784  | 0.9D+1E         | Combination | Max      | 37.364678  | 15.046834  | 3.998782  | 0.000701      | 0.001704      |
| 1784  | 0.9D+1E         | Combination | Min      | -36.852211 | -15.079474 | -5.858536 | -0.000693     | -0.001678     |
| 1784  | 1.2D+1L+1E<br>y | Combination | Max      | 10.024664  | 27.135214  | 0.976473  | 0.001255      | 0.000458      |
| 1784  | 1.2D+1L+1E<br>y | Combination | Min      | -9.109125  | -27.162560 | -3.602112 | -0.001234     | -0.000412     |
| 1784  | 0.9D+1Ey        | Combination | Max      | 9.823128   | 27.132567  | 1.359415  | 0.001248      | 0.000448      |
| 1784  | 0.9D+1Ey        | Combination | Min      | -9.310661  | -27.165207 | -3.219169 | -0.001240     | -0.000422     |
| 1784  | 1D+0.5L         | Combination |          | 0.342766   | -0.014090  | -1.069688 | 7.182E-06     | 0.000017      |
| 1785  | 1.4D            | Combination |          | 0.438000   | 0.004368   | -1.517836 | 7.838E-06     | 0.000017      |
| 1785  | 1.2D+1.6L       | Combination |          | 0.564901   | 0.032887   | -1.453245 | 7.127E-06     | 0.000024      |
| 1785  | 1.2D+1L+1E      | Combination | Max      | 37.602407  | 17.012515  | 0.678291  | 0.000813      | 0.001729      |
| 1785  | 1.2D+1L+1E      | Combination | Min      | -36.614710 | -16.968599 | -3.470599 | -0.000799     | -0.001689     |
| 1785  | 0.9D+1E         | Combination | Max      | 37.390130  | 16.993365  | 1.098693  | 0.000811      | 0.001720      |
| 1785  | 0.9D+1E         | Combination | Min      | -36.826987 | -16.987749 | -3.050197 | -0.000801     | -0.001698     |
| 1785  | 1.2D+1L+1E<br>y | Combination | Max      | 10.061467  | 27.143064  | 0.602794  | 0.001347      | 0.000460      |
| 1785  | 1.2D+1L+1E<br>y | Combination | Min      | -9.073769  | -27.099148 | -3.395102 | -0.001333     | -0.000420     |
| 1785  | 0.9D+1Ey        | Combination | Max      | 9.849189   | 27.123914  | 1.023196  | 0.001345      | 0.000451      |
| 1785  | 0.9D+1Ey        | Combination | Min      | -9.286046  | -27.118298 | -2.974700 | -0.001335     | -0.000429     |
| 1785  | 1D+0.5L         | Combination |          | 0.372067   | 0.012227   | -1.131745 | 5.726E-06     | 0.000015      |
| 1786  | 1.4D            | Combination |          | 0.417403   | -0.042451  | -1.547018 | 7.943E-06     | 5.407E-06     |
| 1786  | 1.2D+1.6L       | Combination |          | 0.560983   | -0.012193  | -1.480450 | 7.781E-06     | 6.219E-06     |
| 1786  | 1.2D+1L+1E      | Combination | Max      | 37.406828  | 16.972706  | 1.923893  | 0.000813      | 0.001563      |
| 1786  | 1.2D+1L+1E      | Combination | Min      | -36.437269 | -17.015237 | -4.768966 | -0.000799     | -0.001551     |
| 1786  | 0.9D+1E         | Combination | Max      | 37.190379  | 16.966682  | 2.351918  | 0.000811      | 0.001561      |
| 1786  | 0.9D+1E         | Combination | Min      | -36.653718 | -17.021261 | -4.340941 | -0.000801     | -0.001554     |
| 1786  | 1.2D+1L+1E<br>y | Combination | Max      | 10.048783  | 27.105148  | 2.713697  | 0.001343      | 0.000425      |
| 1786  | 1.2D+1L+1E<br>y | Combination | Min      | -9.079223  | -27.147678 | -5.558770 | -0.001329     | -0.000414     |
| 1786  | 0.9D+1Ey        | Combination | Max      | 9.832334   | 27.099123  | 3.141722  | 0.001341      | 0.000423      |
| 1786  | 0.9D+1Ey        | Combination | Min      | -9.295672  | -27.153703 | -5.130745 | -0.001331     | -0.000416     |
| 1786  | 1D+0.5L         | Combination |          | 0.361648   | -0.022761  | -1.153273 | 5.977E-06     | 4.357E-06     |
| 1787  | 1.4D            | Combination |          | 0.272205   | -0.311833  | -1.500893 | 0.000021      | 0.000030      |
| 1787  | 1.2D+1.6L       | Combination |          | 0.327972   | -0.447722  | -1.422241 | 0.000028      | 0.000040      |
| 1787  | 1.2D+1L+1E      | Combination | Max      | 50.111223  | 18.796899  | 0.855056  | 0.000804      | 0.002021      |
| 1787  | 1.2D+1L+1E      | Combination | Min      | -49.526269 | -19.557016 | -3.597717 | -0.000756     | -0.001953     |
| 1787  | 0.9D+1E         | Combination | Max      | 49.993735  | 18.976493  | 1.261527  | 0.000793      | 0.002006      |
| 1787  | 0.9D+1E         | Combination | Min      | -49.643757 | -19.377422 | -3.191246 | -0.000766     | -0.001968     |
| 1787  | 1.2D+1L+1E<br>y | Combination | Max      | 13.139317  | 31.214084  | 2.161608  | 0.001387      | 0.000546      |
| 1787  | 1.2D+1L+1E<br>y | Combination | Min      | -12.554362 | -31.974201 | -4.904269 | -0.001340     | -0.000477     |
| 1787  | 0.9D+1Ey        | Combination | Max      | 13.021828  | 31.393678  | 2.568079  | 0.001377      | 0.000530      |
| 1787  | 0.9D+1Ey        | Combination | Min      | -12.671851 | -31.794607 | -4.497798 | -0.001350     | -0.000492     |



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**STUDENT**

**FINALIA PERDANA P.**

**DRAWING**

**BEAMS AND COLUMNS  
COORDINATES**

**SCALE**

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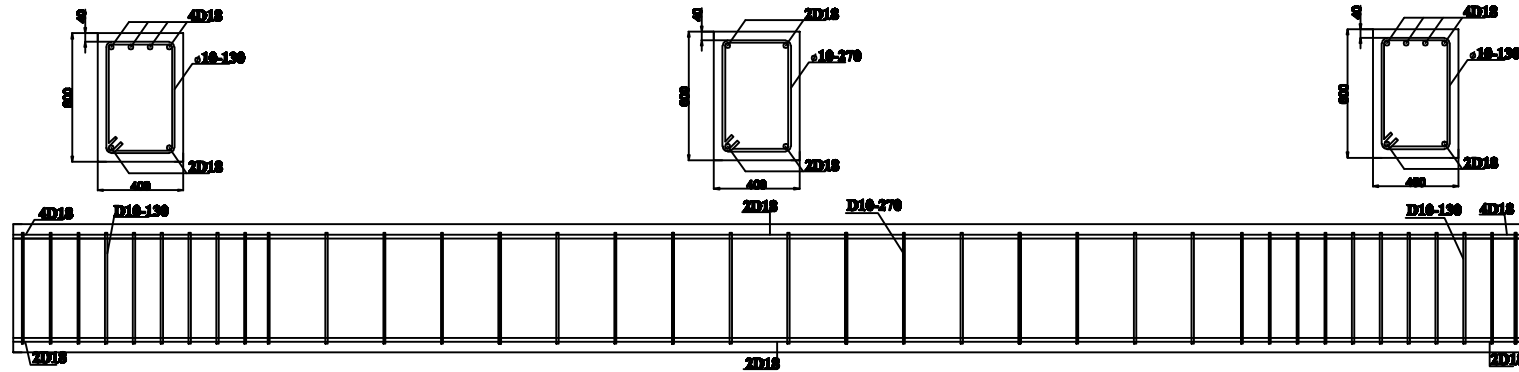
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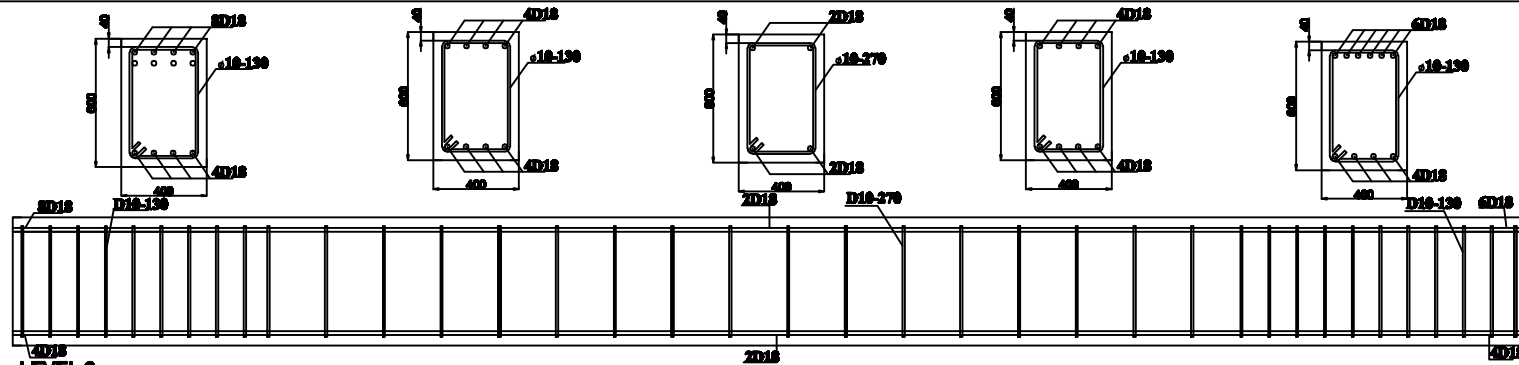
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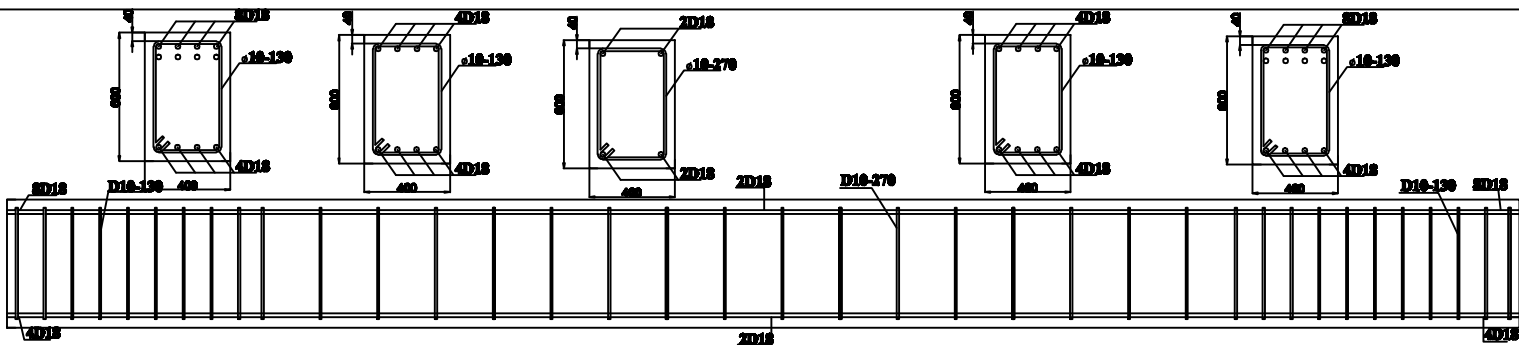
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LEVEL 1



LEVEL 6



LEVEL 11





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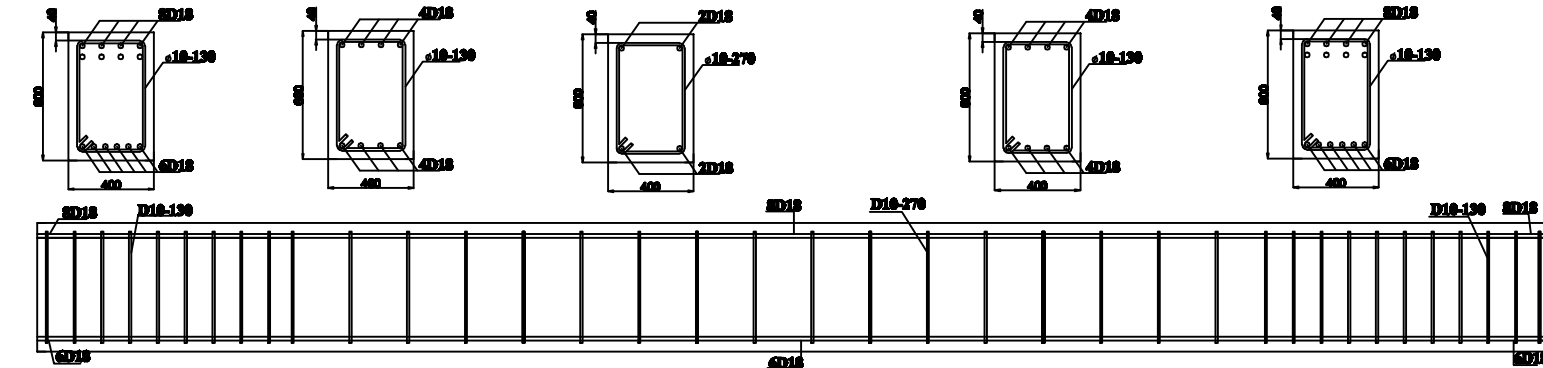
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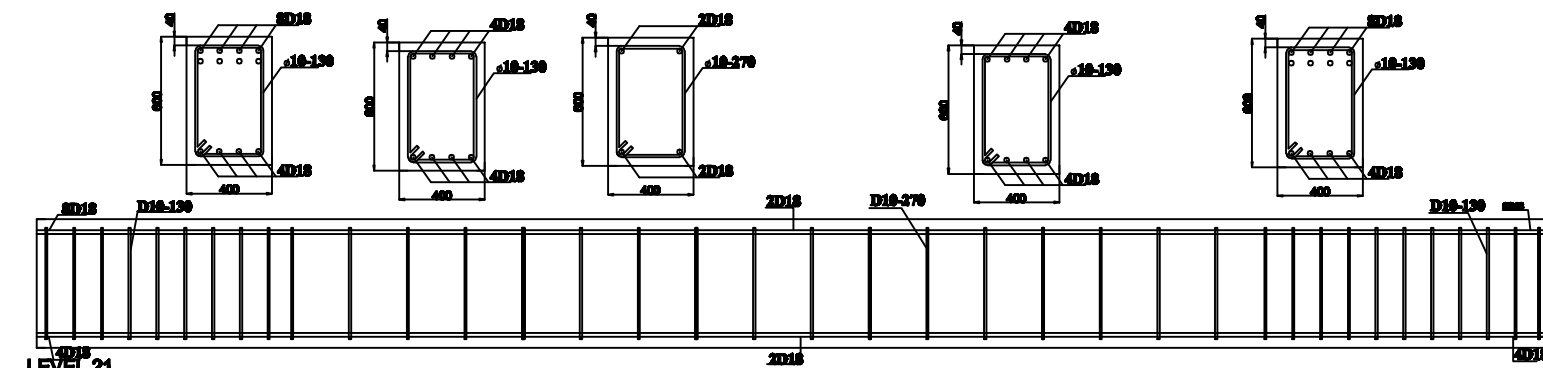
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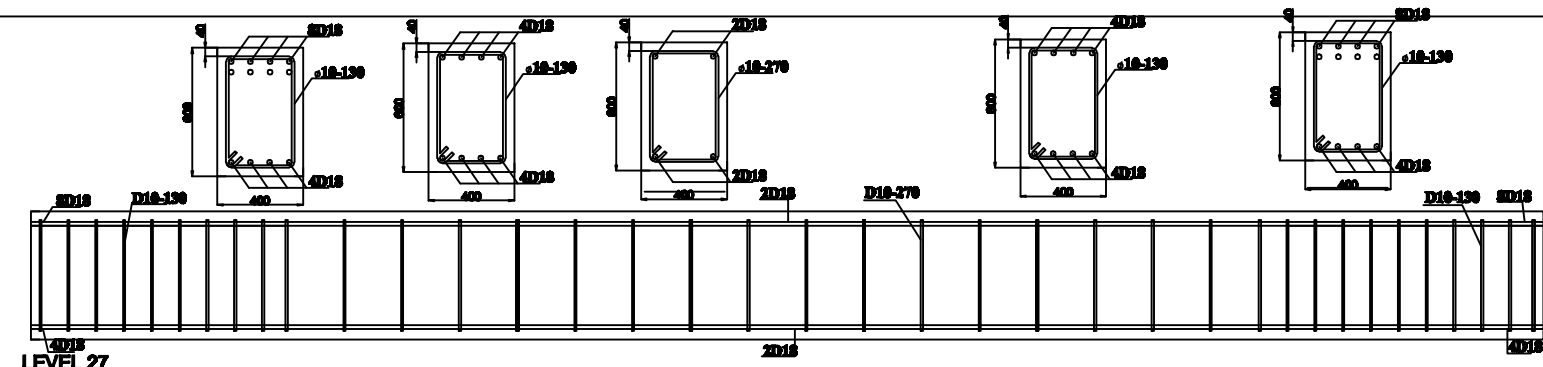
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LEVEL 16



LEVEL 21



LEVEL 27



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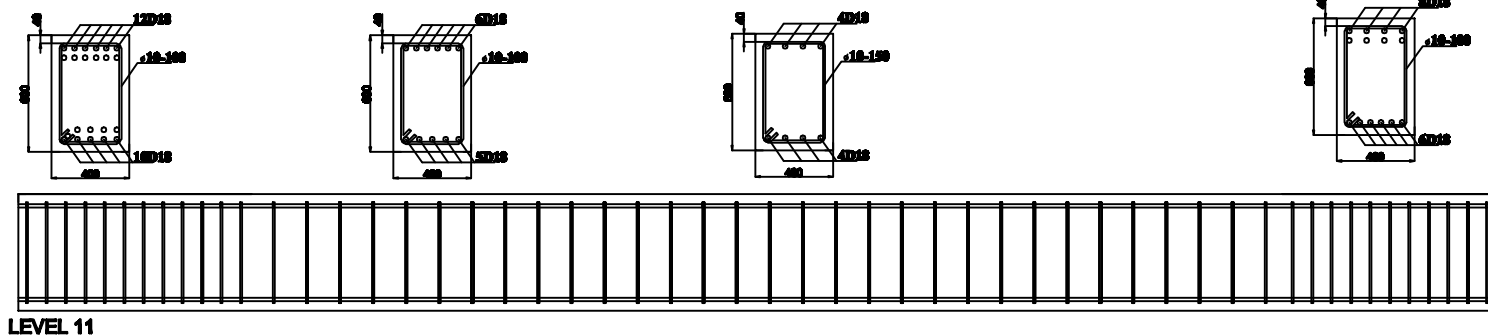
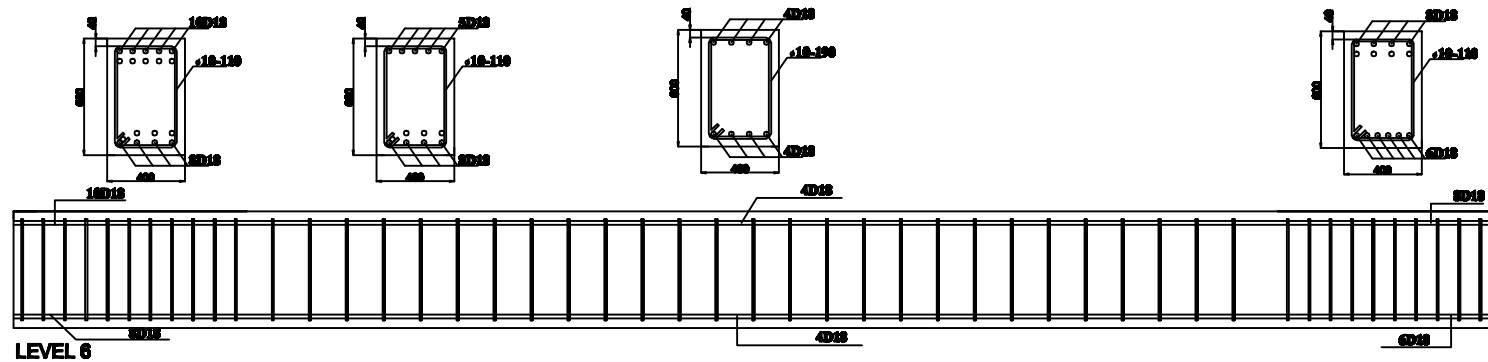
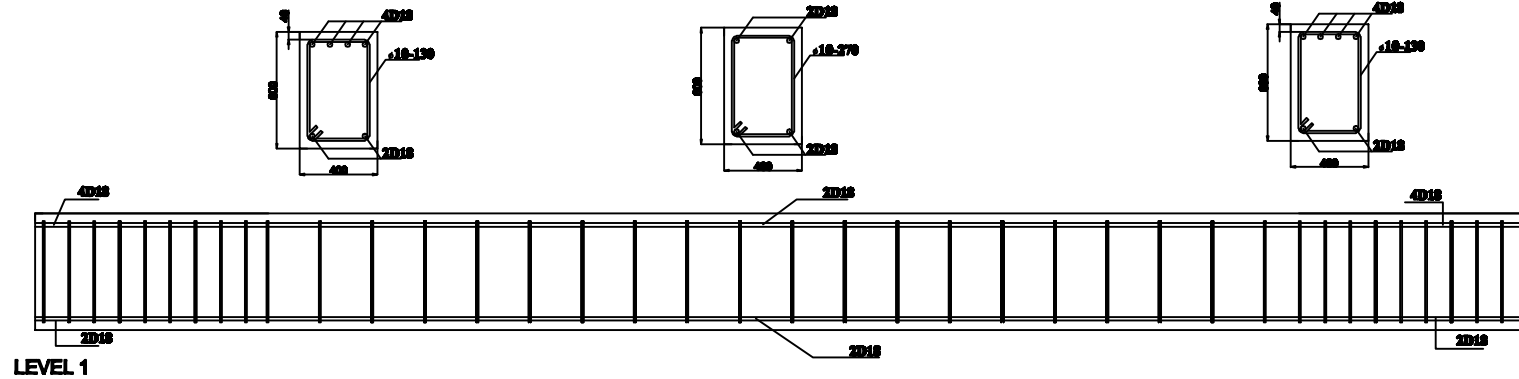
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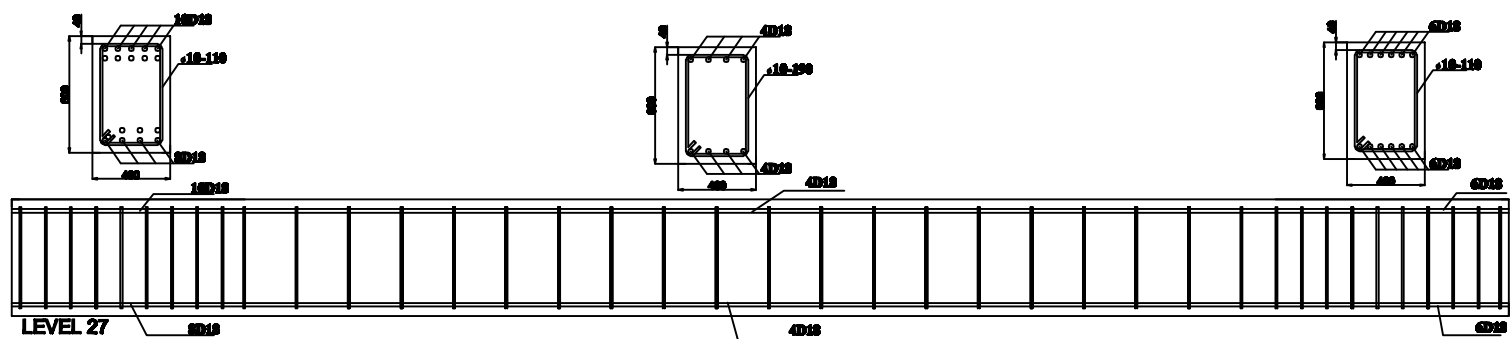
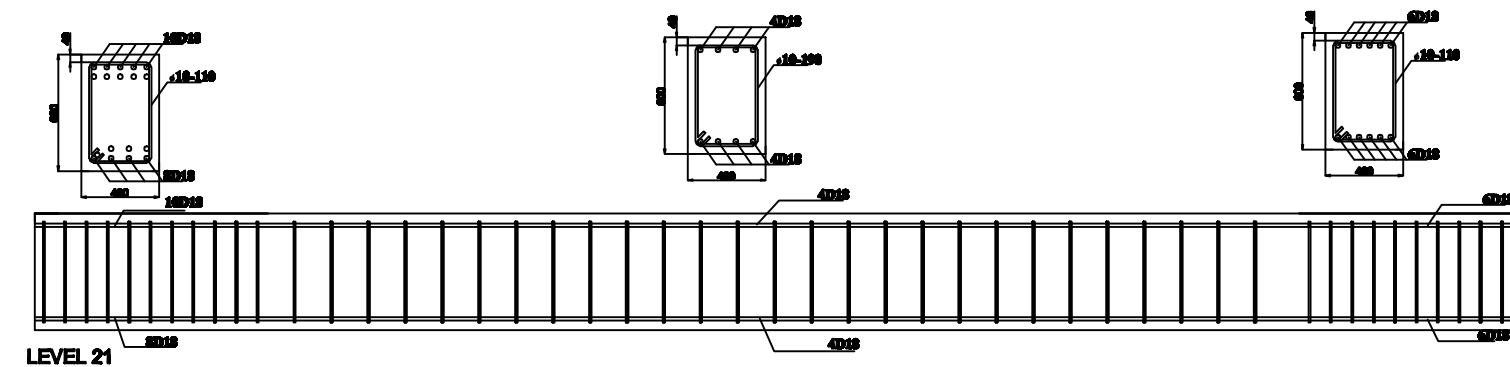
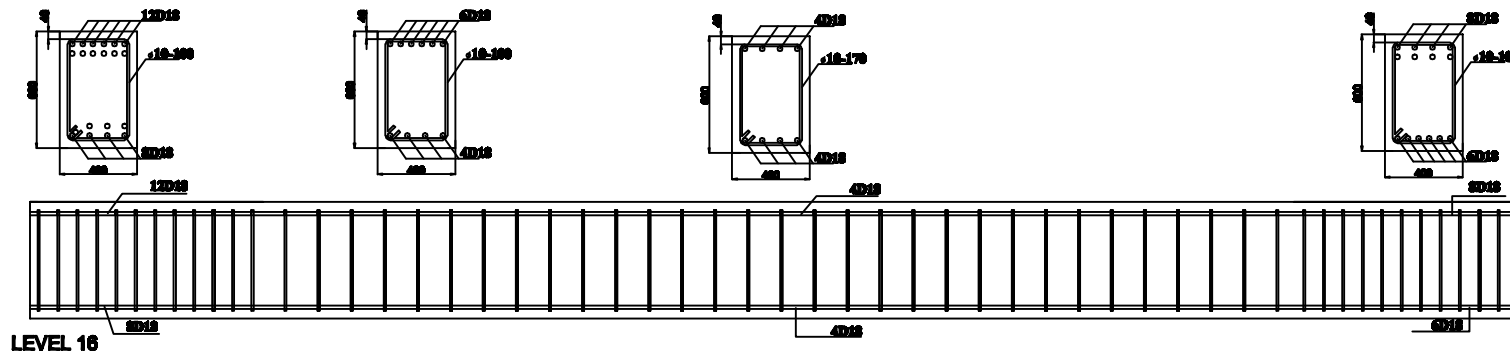
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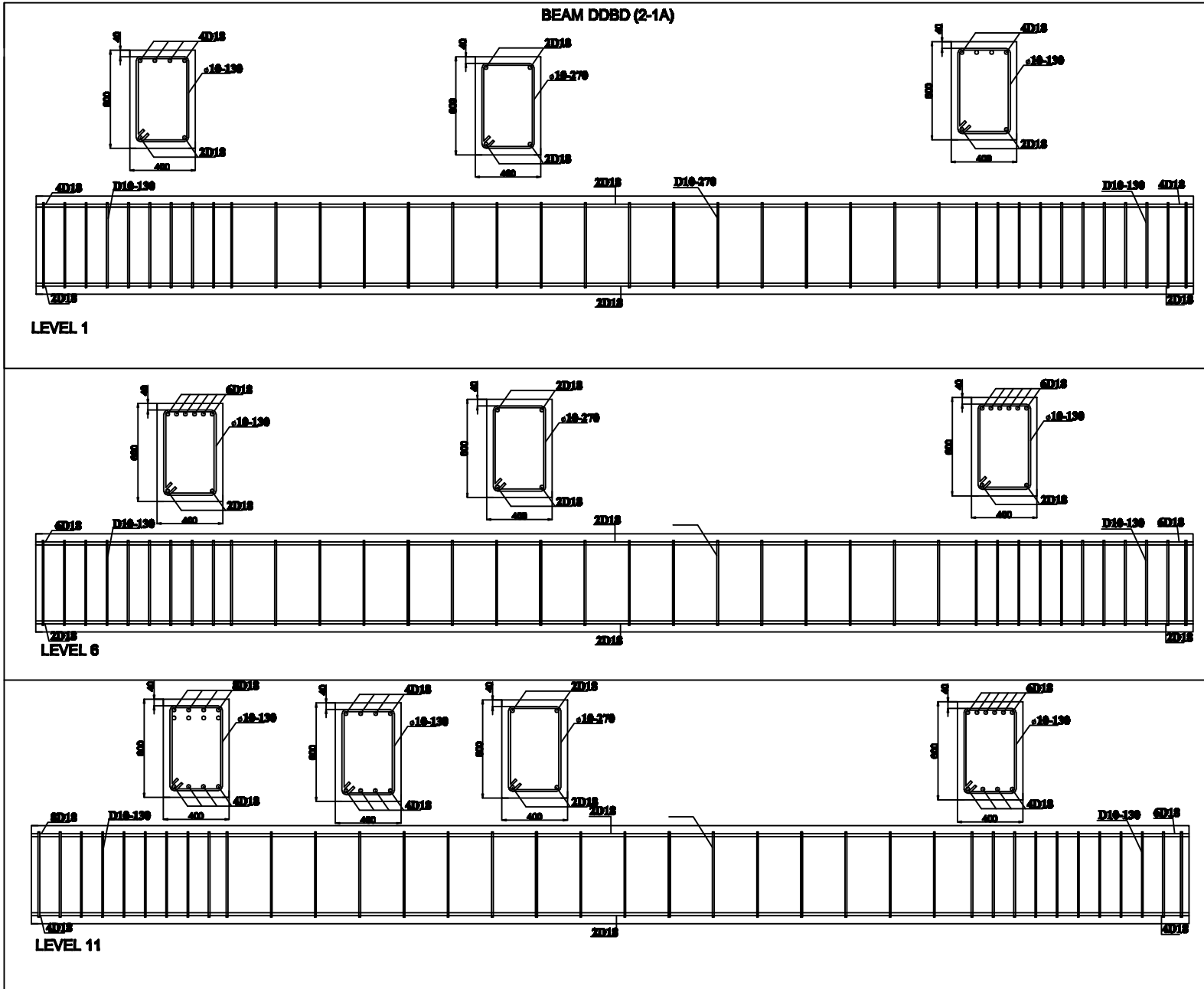
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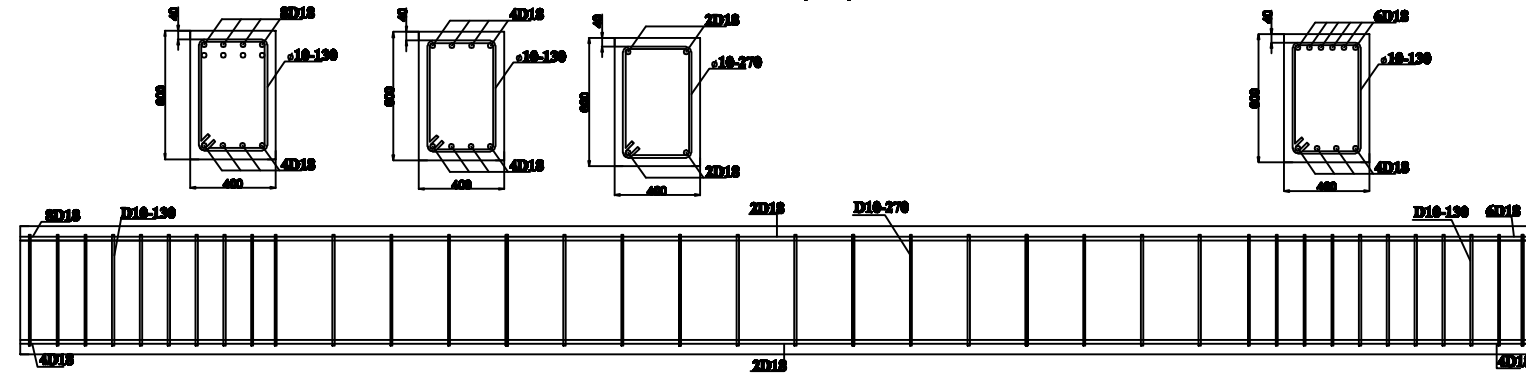
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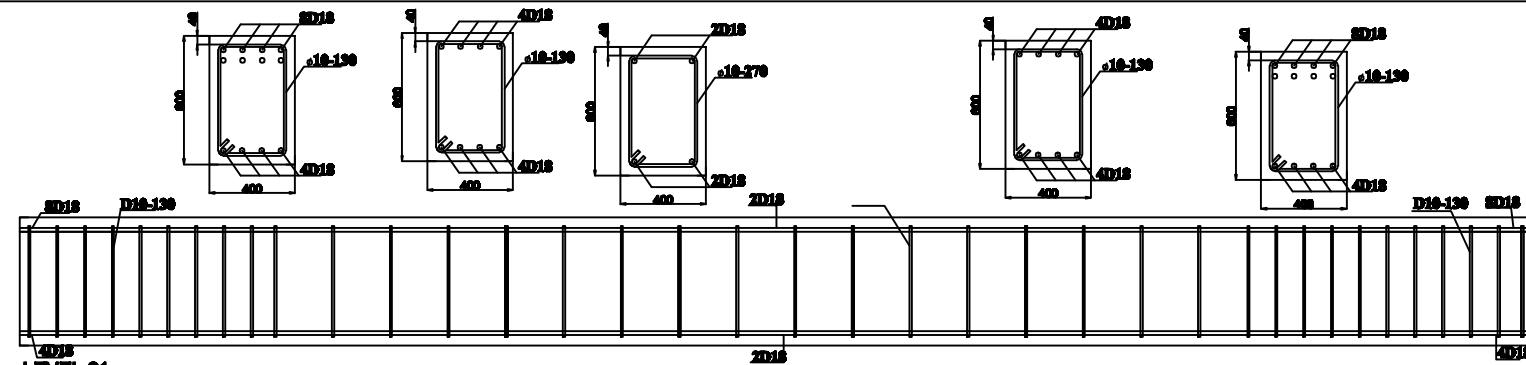
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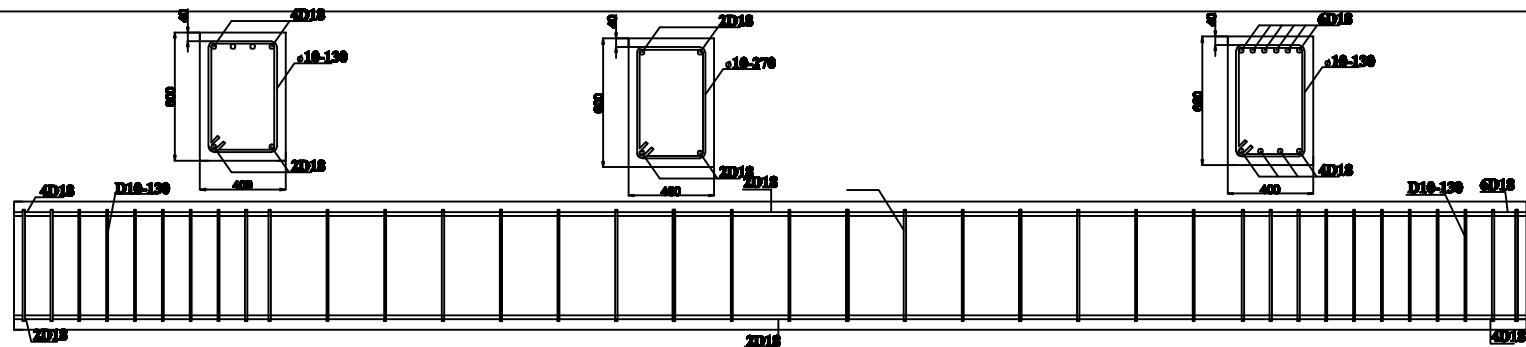
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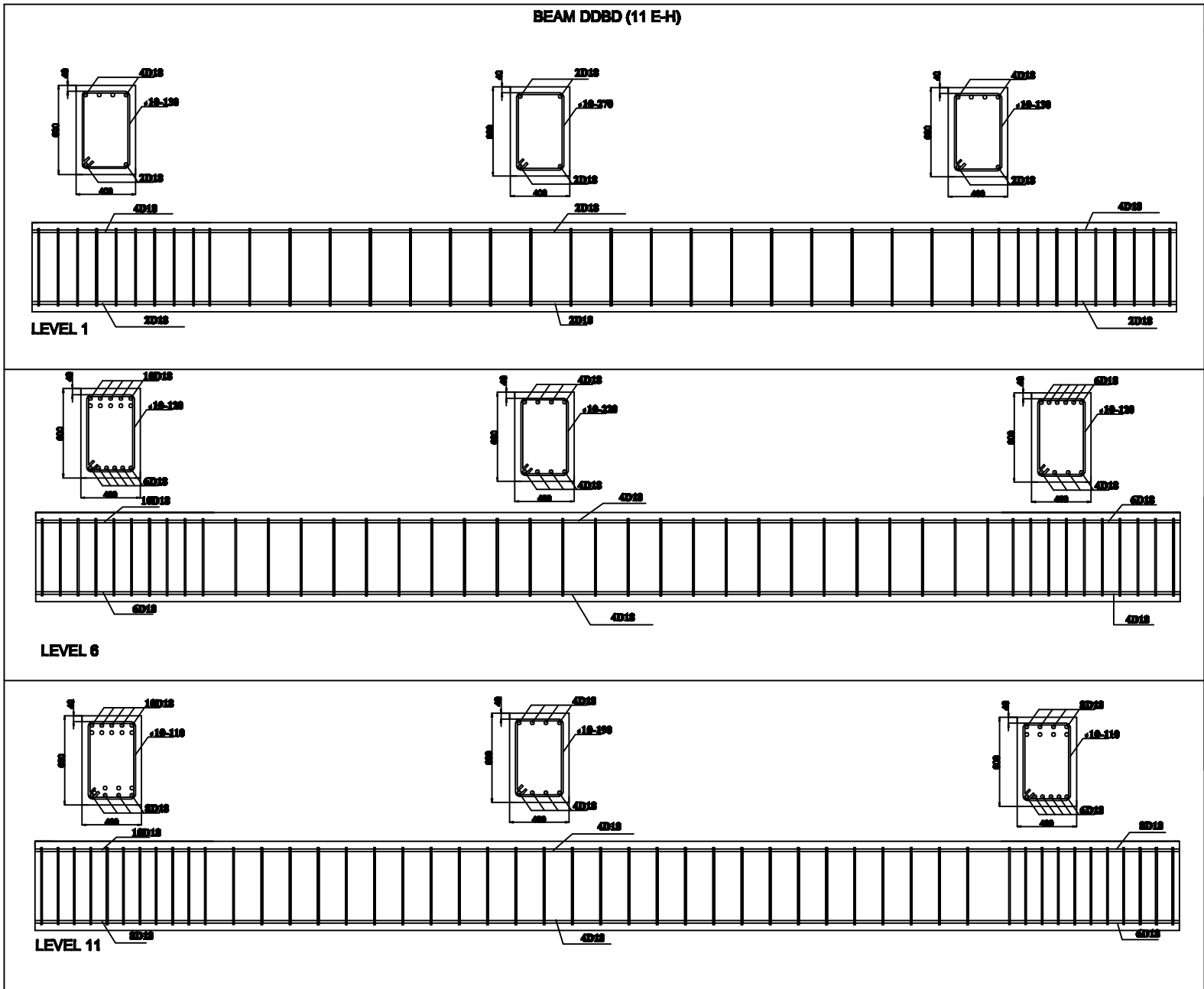
LEVEL 16



LEVEL 21



LEVEL 27



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**STUDENT**

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**DRAWING**

**DETAIL BEAM  
REINFORCEMENTS**

**SCALE**

**1 : 20**

**DRAWING NO.**

**8**

**19**



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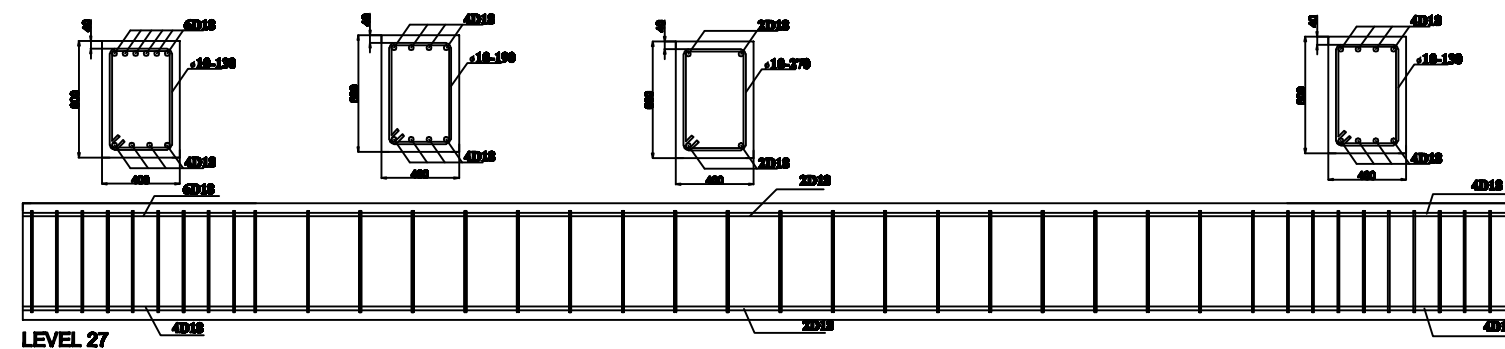
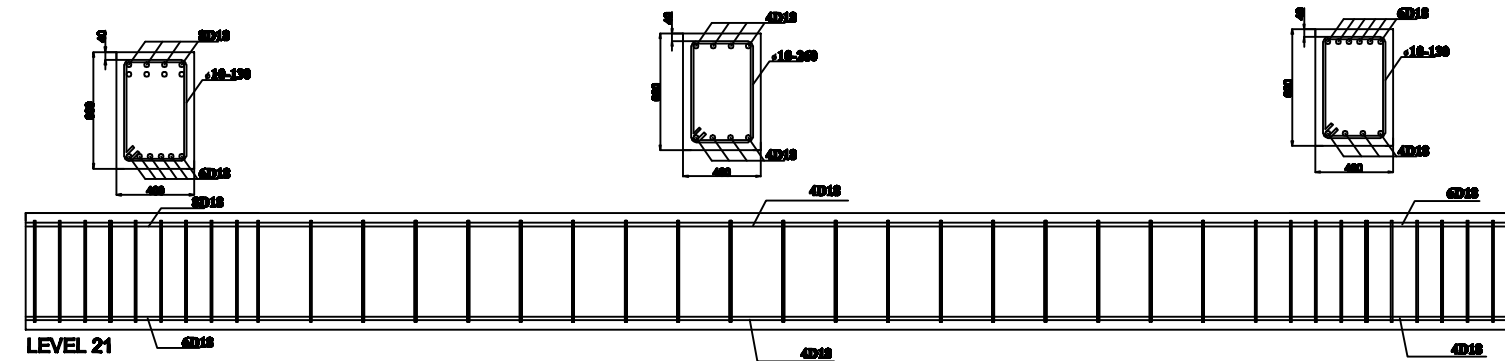
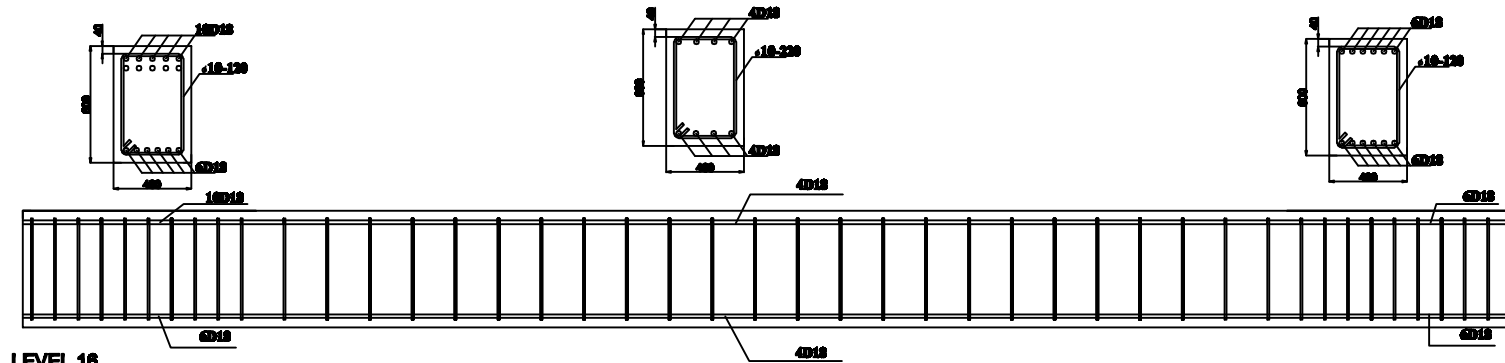
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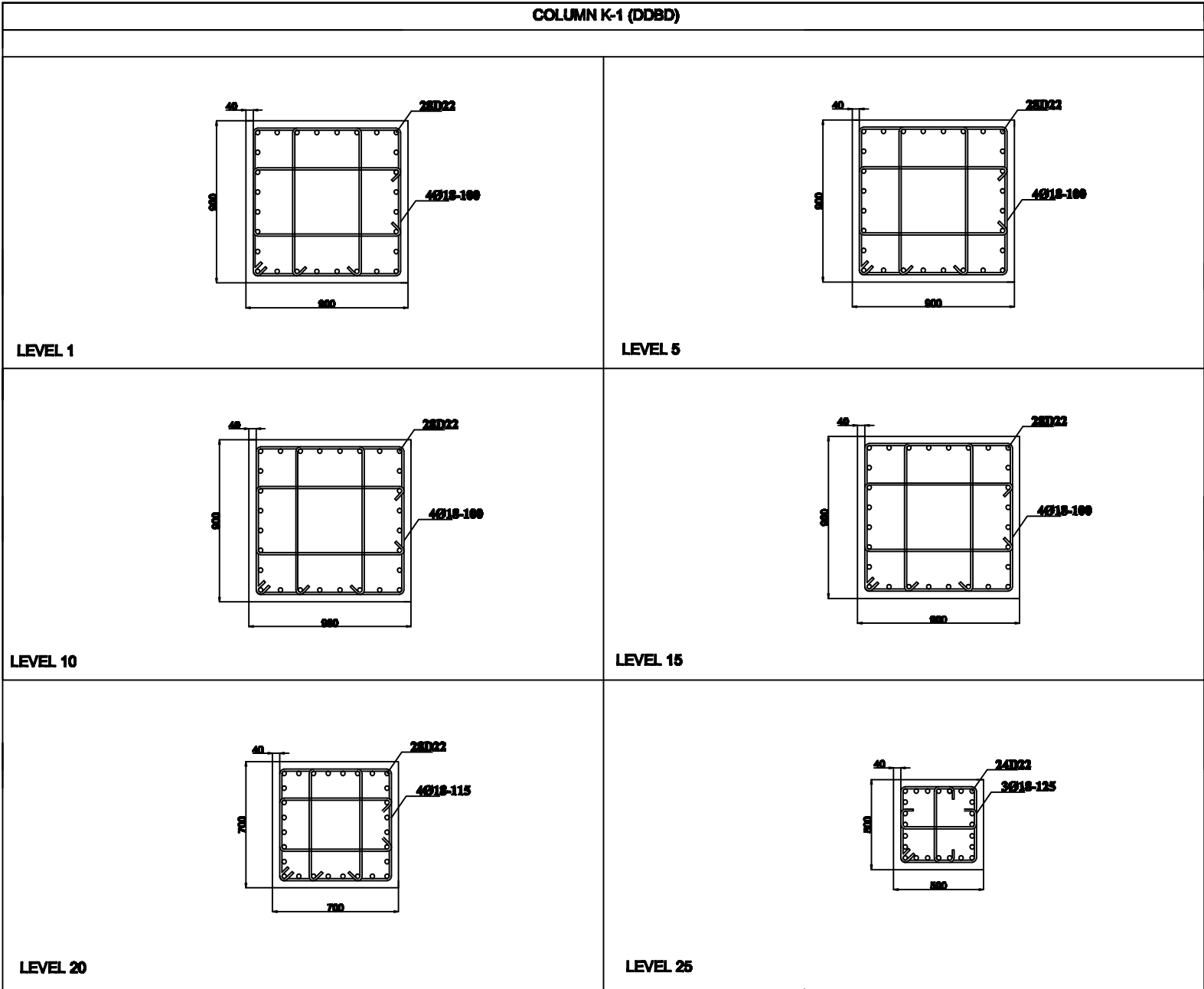
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BEAM DBBD (11 E-H)





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DETAIL COLUMN  
REINFORCEMENTS

SCALE

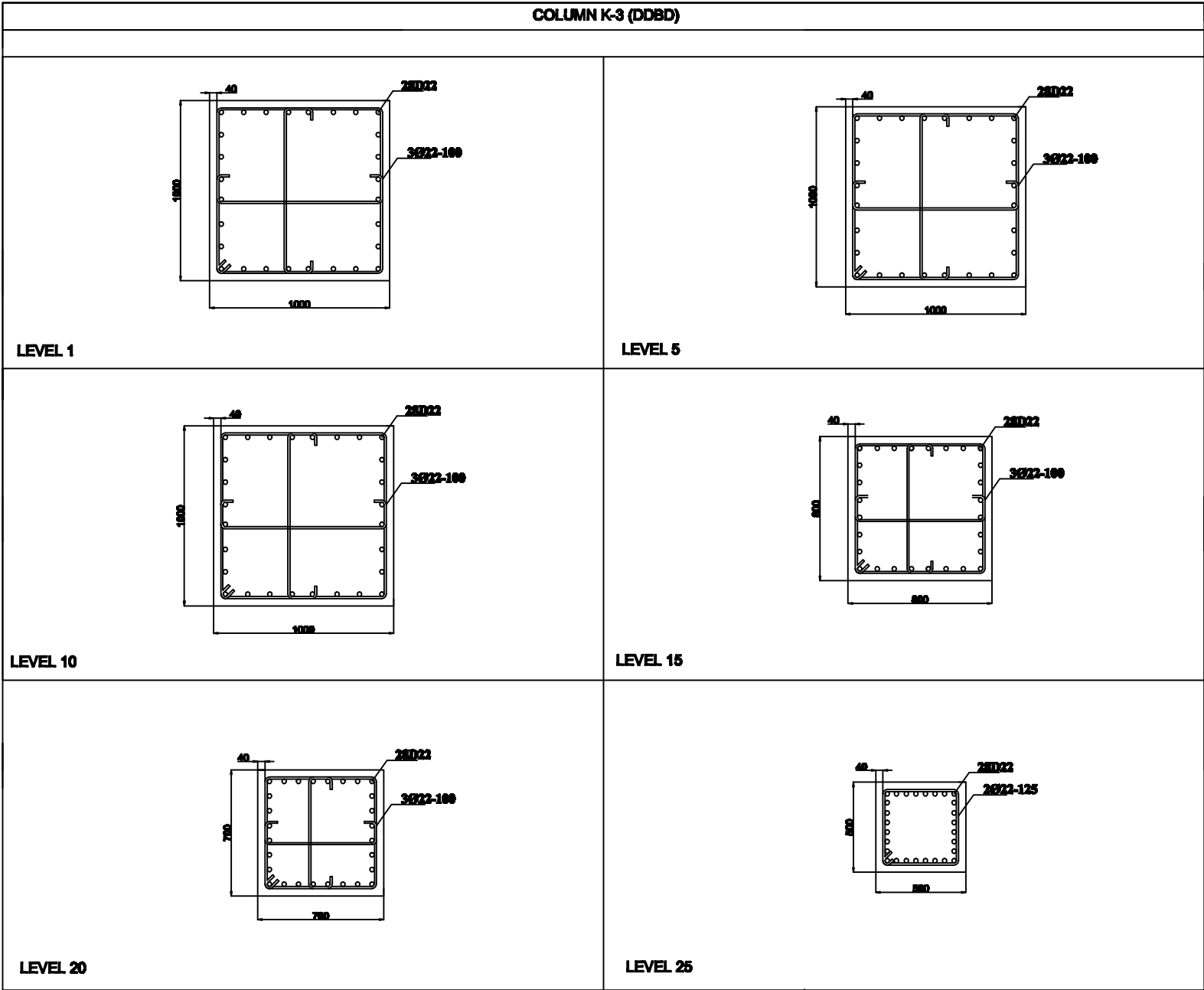
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DETAIL COLUMN  
REINFORCEMENTS

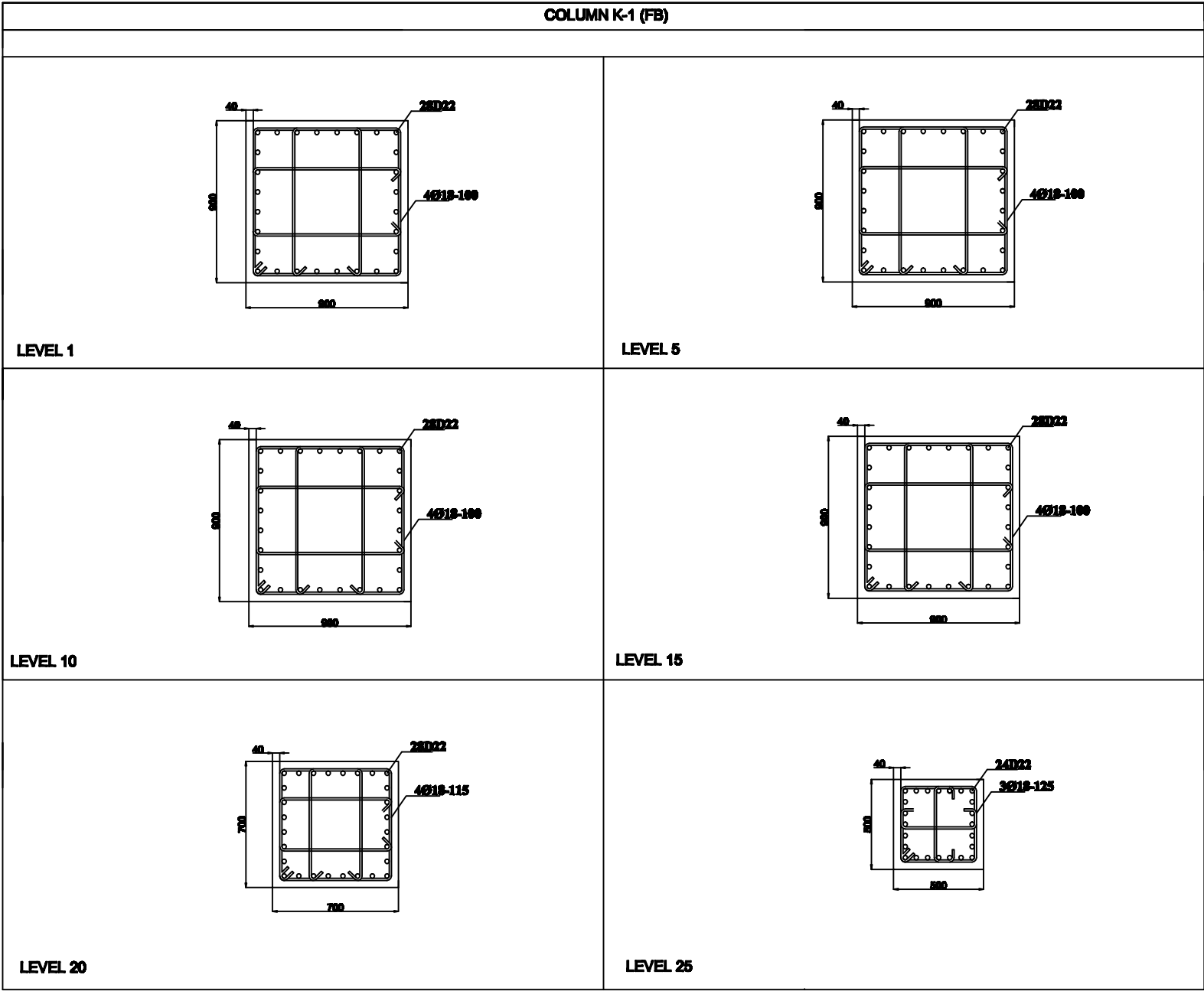
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REINFORCEMENTS

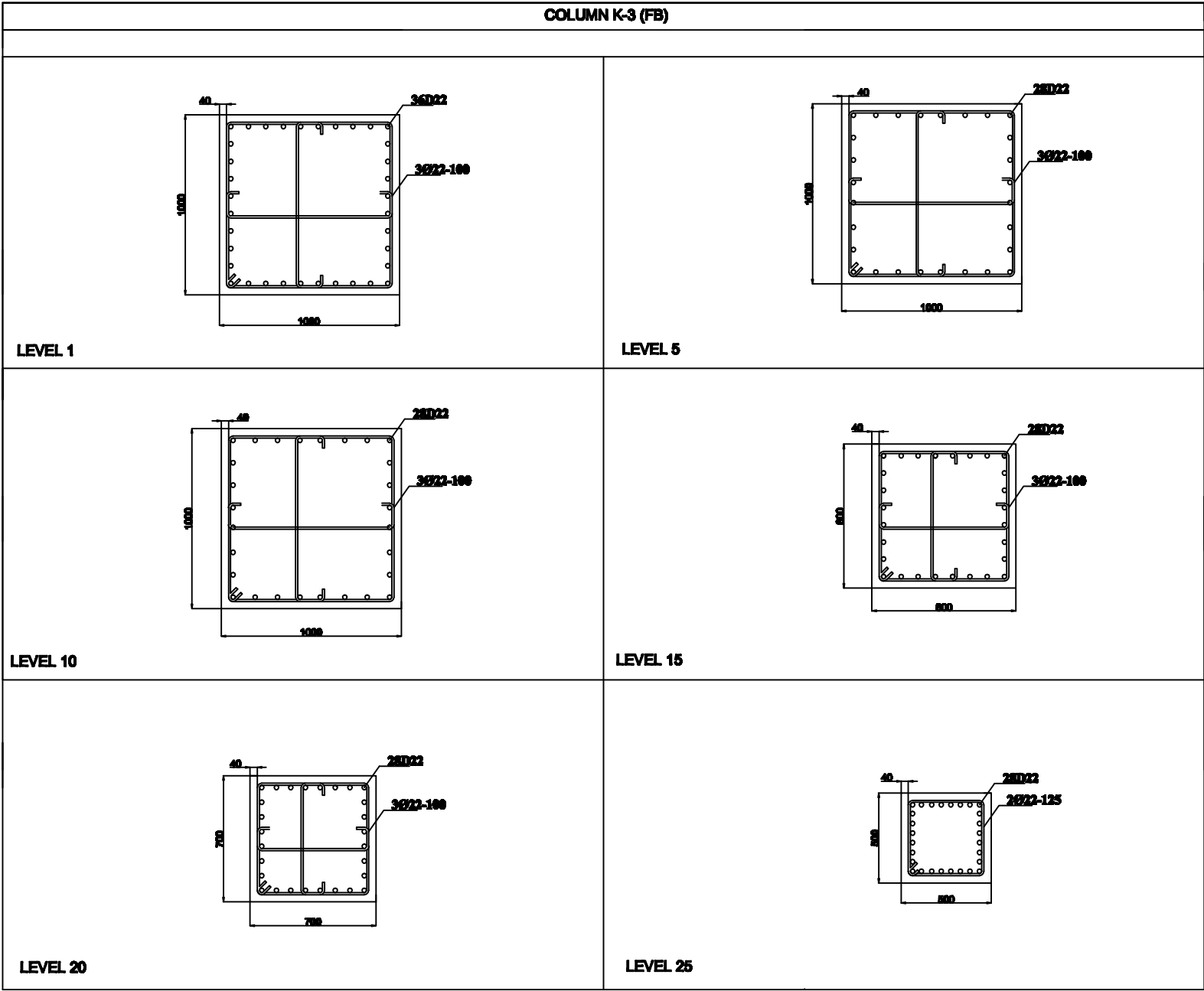
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JURUSAN TEKNIK SIPIL  
FTSP - ITS  
SURABAYA

TITLE OF WORK

FINAL PROJECT

SUPERVISOR

Ir. FAIMUN, MSc., Ph.D.

STUDENT

FIRNALIA PERDANA P.

DRAWING

DETAIL COLUMN  
REINFORCEMENTS

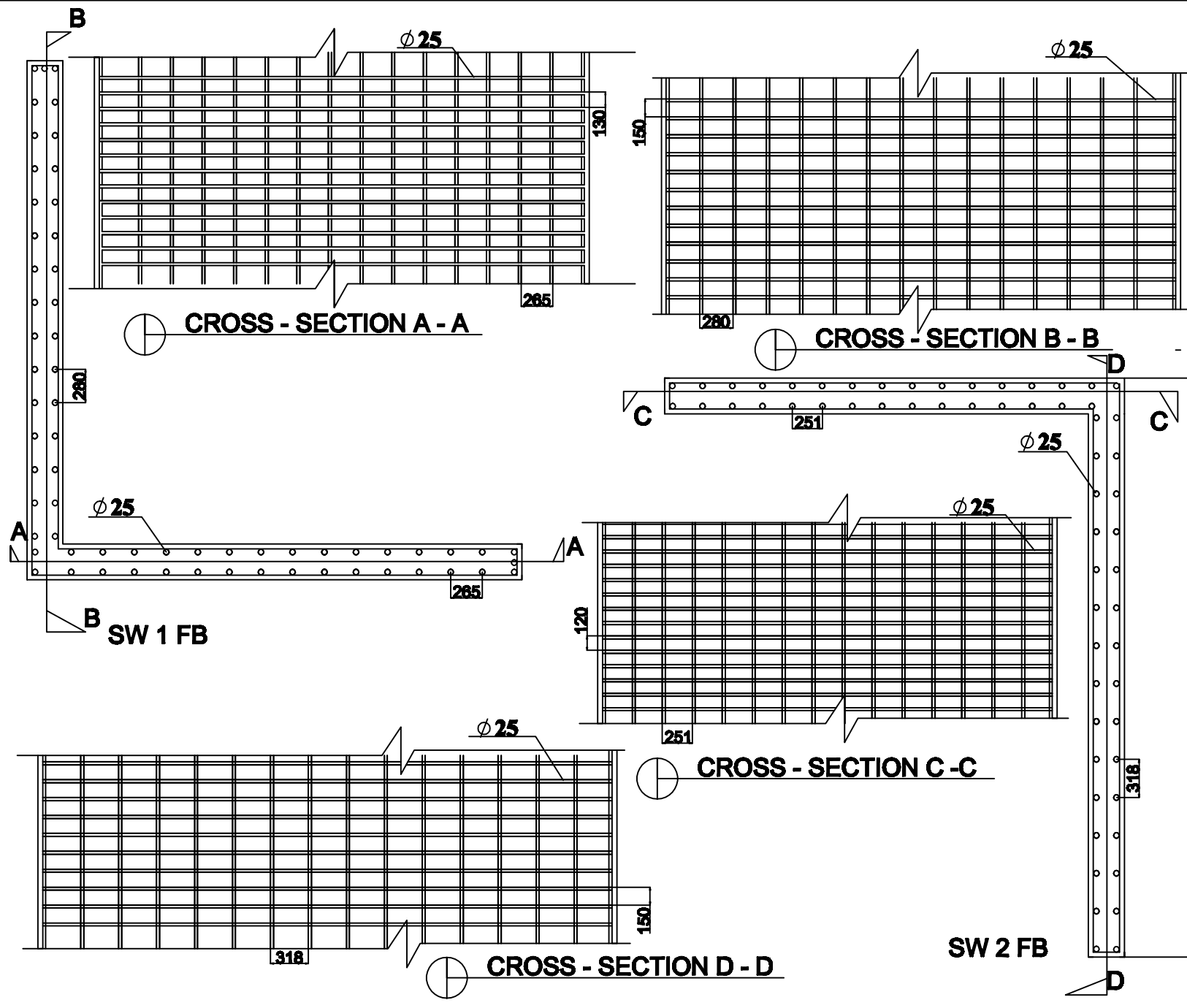
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**DETAIL SHEARWALL  
REINFORCEMENT**

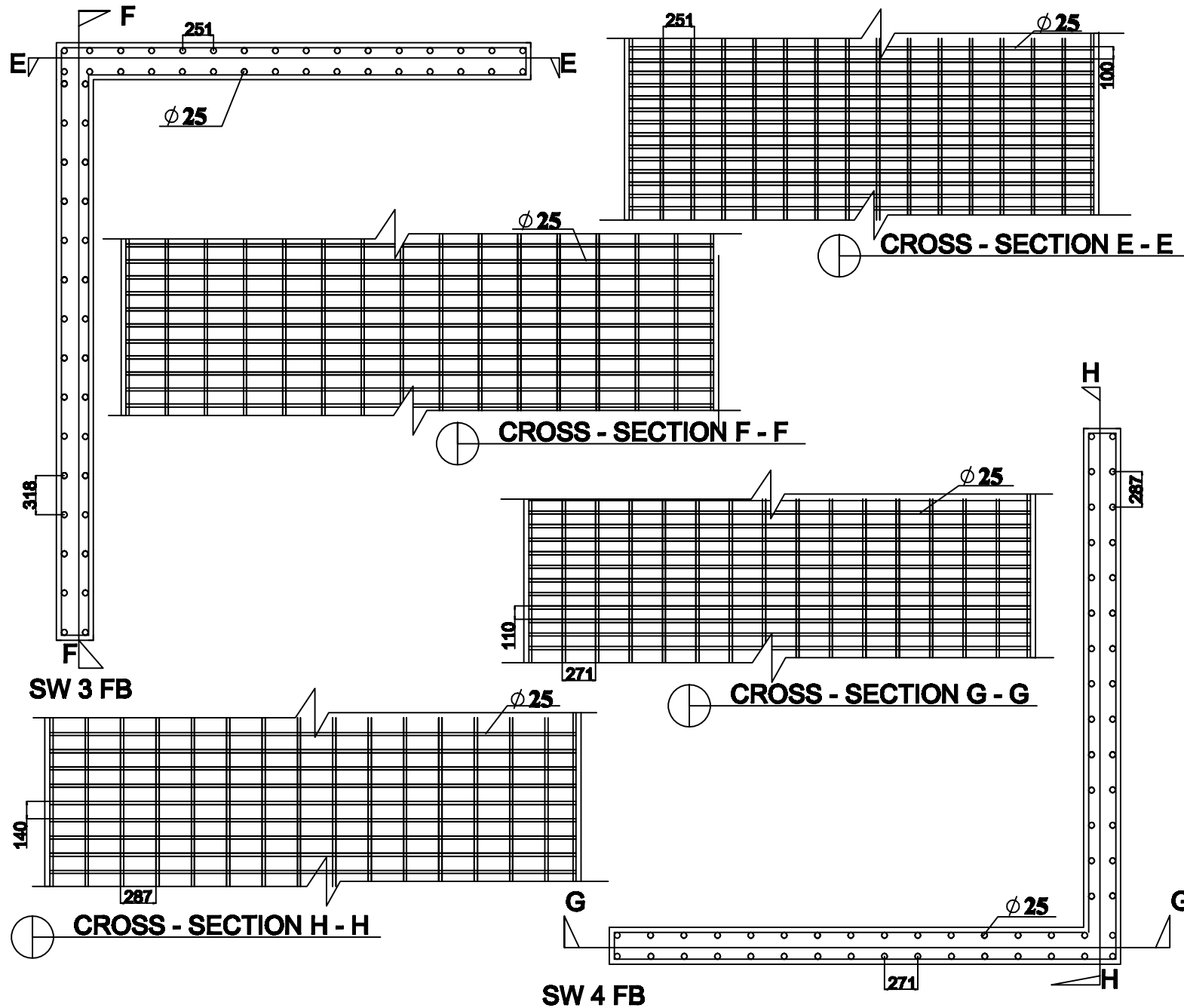
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REINFORCEMENT**

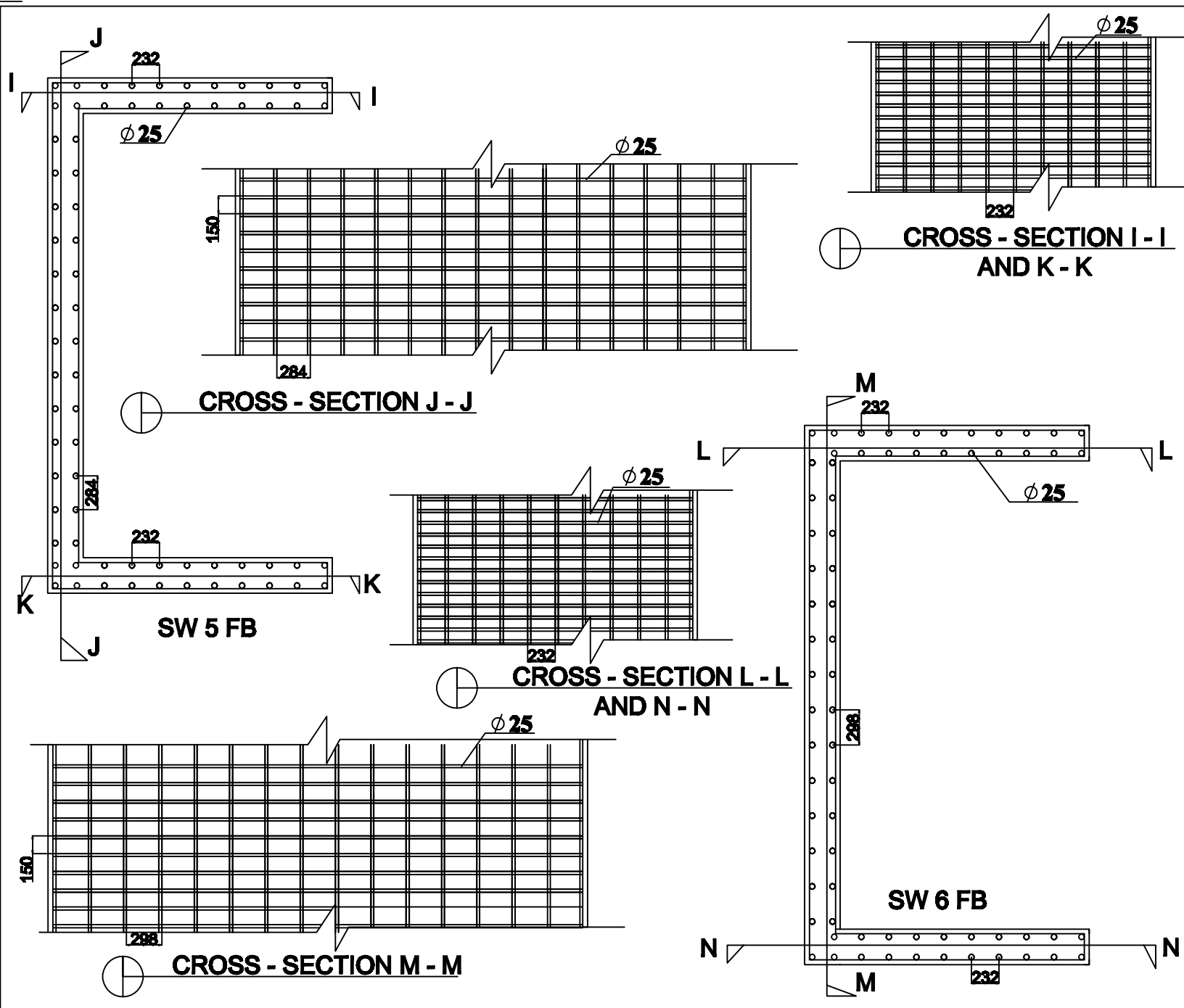
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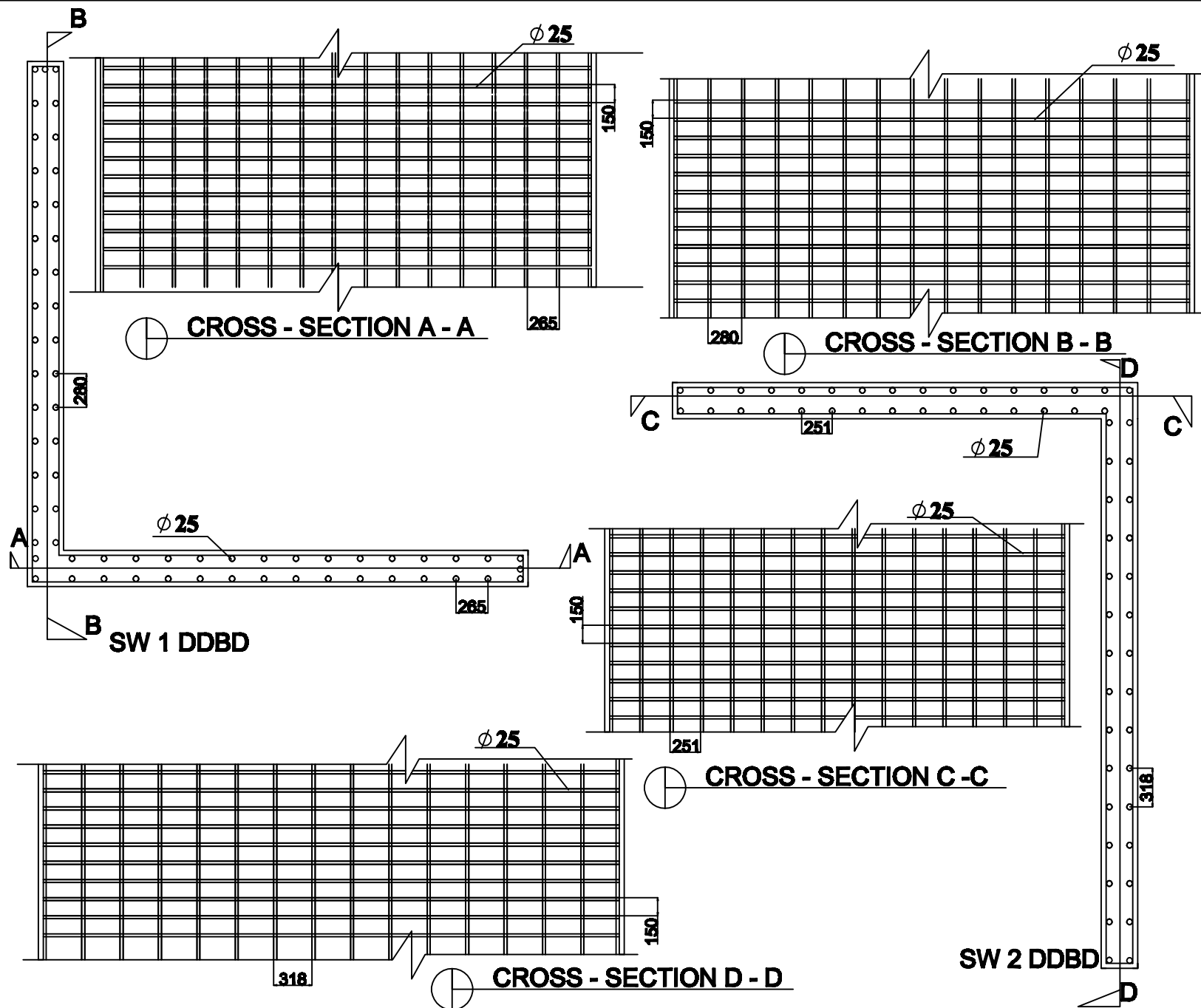
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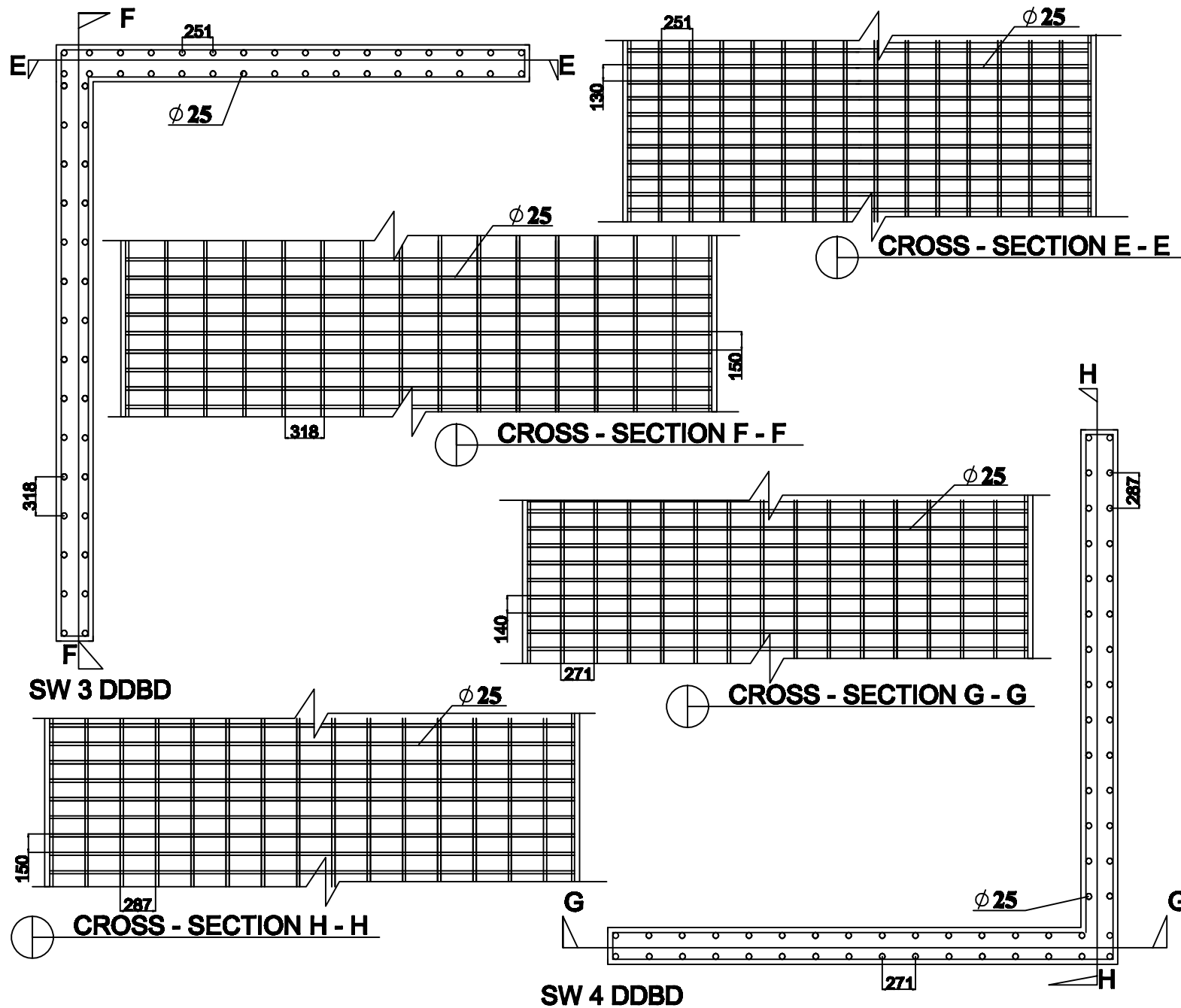
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**DETAIL SHEARWALL  
REINFORCEMENT**

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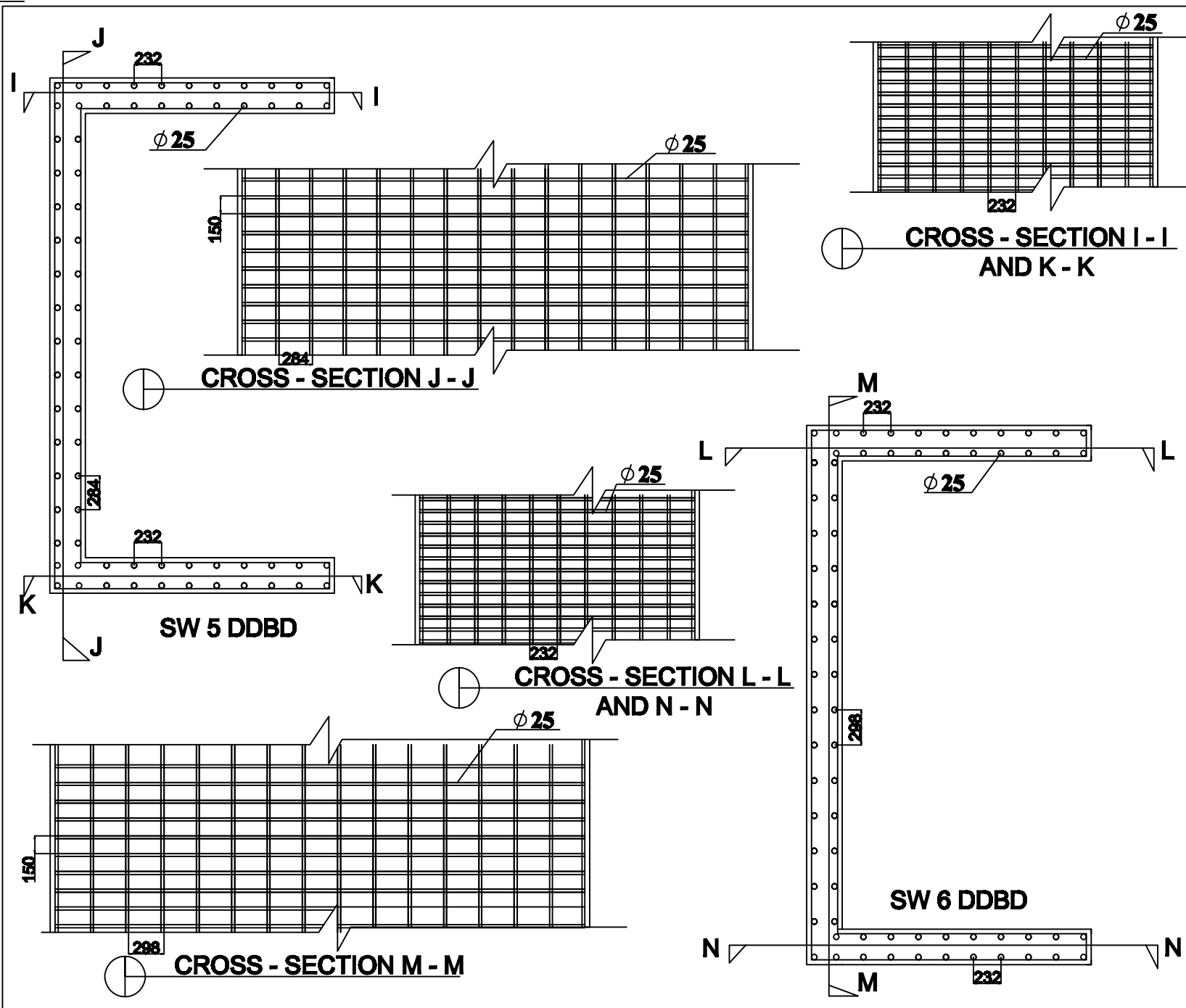
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## BIBLIOGRAPHY

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## **BIOGRAPHY**



Firnalia Perdana Putri was born in Jakarta on the 15<sup>th</sup> September 1993. During her earlier years she spent most of her elementary school years in Surabaya, Indonesia, but then moved to Newcastle Upon Tyne, United Kingdom in 2004. She continued her studies in Newcastle until the end of her High School period and came back to Indonesia for her Undergraduate studies

in ITS in the year 2011.

Always wanting to be busy, the writer was involved with a few extra curricular activities in school, including netball and football. The writer also developed an interest in Performing Arts whilst in Newcastle, and was heavily involved with her school productions and also productions by a local theatre.

Whilst in ITS, the writer kept up with her interest of extra curricular activities including futsal, basketball, and volley and was also part of the Civil Engineering student's society where she had the opportunity to be the head of department and also head of committee which handles big event.

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